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BEFORE THE ARIZONA CORPORATION COMMISSION

WILLIAM A. MUNDELL
Chairman
JIM IRVIN
Commissioner
MARC SPITZER
Commissioner

IN THE MATTER OF THE GENERIC INVESTIGATION INTO U S WEST COMMUNICATIONS, INC.'S COMPLIANCE WITH CERTAIN WHOLESALE PRICING REQUIREMENTS FOR UNBUNDLED NETWORK ELEMENTS AND RESALE DISCOUNTS.	**DOCKET NO. T-00000A-00-0194**

QWEST CORPORATION'S NOTICE OF FILING COLORADO DECISION

As discussed in its Exceptions (at 39 n.28), Qwest Corporation ("Qwest") hereby files the attached pricing decision of the Colorado Public Utilities Commission: Decision C01-1302, In the Matter of U S WEST Communications, Inc.'s Statement of Generally Available Terms and Conditions, Docket No. 99A-577T (Dec. 21, 2001) (Colorado Decision).[1] The Decision is subject to applications for reconsideration, which will likely be filed in January.

[1] The switching rate reflected in the accompanying price list contains an apparent typographical error: as the test of the Colorado Decision makes clear (at 79), the switching rate will remain .00283m as set in Colorado Docket No. 96A-331T.

Respectfully submitted this 28th day of December, 2001.

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Decision No. C01-1302

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

DOCKET NO. 99A-577T

IN THE MATTER OF U S WEST COMMUNICATIONS, INC.'S STATEMENT OF GENERALLY AVAILABLE TERMS AND CONDITIONS.

COMMISSION ORDER

Mailed Date: December 21, 2001
Adopted Date: November 13, 2001

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I. INTRODUCTION

1. Pricing is an extraordinarily complex endeavor. This is particularly so when the prescribed pricing methodology involves forward-looking inputs for a hypothetically most efficient telecommunications network. Nonetheless, that is the Commission's task here: to set prices for Qwest Communications, Inc.'s (Qwest) wholesale interconnection, unbundled network element (UNE), and resale offerings.

2. The Commission last set wholesale rates for Qwest, then U S WEST Communications, Inc., in Docket No. 96S-331T (331T). Those prices are now more than four years old. Because Qwest is in the process of applying for interLATA relief under 47 U.S.C. § 271, the Commission believes it is necessary to revisit its prices in this proceeding. This Order resolves prices put at issue by Qwest and competitive local exchange carriers (CLECs) in this Phase I of this docket. This proceeding involves thousands of pages of filed testimony, hundreds of exhibits, two full weeks of hearings and several computer-generated models with thousands of input variables. The prices adopted by the Commission are listed in Appendix A to this Order.

3. The Order begins with a background discussion intended to provide the procedural, legal, and conceptual framework for this decision. Following the background

discussion, the decision divides into eight areas: cost models, model input values, capital and expense factors, UNE recurring rates, UNE non-recurring rates, collocation, operator services, and line-sharing.

4. Within each area the issues are stated, each party's position is briefly summarized, and the Commission's conclusion is stated along with a discussion of the reasoning. This method of presentation will be familiar to those active in Docket No. 97I-198T. The parties' summarized positions have been included for background and ease of reference.[1] Each party's official position is contained in the record of the proceedings. The Commission's decisions are based on the entirety of the record.

II. BACKGROUND

A. Procedural History

1. On November 30, 1999, U S WEST Communications, Inc., now Qwest, filed its proposed Statement of Generally Available Terms and Conditions (SGAT) pursuant to 47 U.S.C § 252(f). By Decision No. C99-1329, mailed on December 7, 1999, we ordered Qwest to send notice of the filing of the SGAT to all

[1] Some parties have chosen not to weigh in on certain issues. In these cases, the parties have not been included in the issue discussion.

CLECs in the state. The notice provided for a 30-day intervention period.

2. A number of entities intervened as parties to this case, including those that actively participated at the hearing: AT&T Communications of the Mountain States, Inc. (AT&T); XO Colorado, Inc. (XO); WorldCom, Inc. (Worldcom); Covad Communications Company (Covad); Rhythms Links, Inc.(Rhythms); New Edge Network, Inc. (New Edge); Sprint Communications Company L.P. (Sprint); Pac-West Telecomm, Inc. (Pac West); the Colorado Office of Consumer Counsel (OCC); and Commission trial staff (Staff). Sprint made motions that Ms. Gendarme and Ms. Bowles be admitted in this proceeding pro hac vice.

3. Qwest's SGAT proposes terms and conditions for interconnection, UNEs, and resale to be offered by Qwest to CLECs under the Telecommunications Act of 1996, Pub. L. 104-104, 110 Stat. 56, (Act). Those proposed terms and conditions concern price and non-price elements.

4. On January 11, 2001, Qwest filed its Motion to Resolve SGAT Issues in its § 271 Proceeding. That motion suggested that non-price terms and conditions in the SGAT be considered and established in Qwest's § 271 proceeding,

Docket No. 97I-198T;[2] that prices (or rates), according to the motion, would be considered in this proceeding, Docket No. 99A-577T. By Decision No. C00-968 and Decision No. C00-420 (in Docket No. 97I-198T), we granted Qwest's motion. This docket concerns only costing and pricing issues related to Qwest's SGAT.

5. The Commission designated Chairman Raymond L. Gifford to serve as the Hearing Commissioner. Pursuant to that designation, the Chairman conducted the hearing in this case beginning on August 6, 2001 and ending on August 17, 2001. The parties filed closing Statements of Position on September 12, 2001.

6. The Commission has adopted a phased hearing approach to this docket. *See* Decision No. R00-1487-I. The current decision represents the conclusion of the Phase I portion of the proceedings. The Commission endeavored to decide as many of the pricing elements within the Phase I portion of the hearing as possible. However, in some instances the record remains insufficient or the circumstances are such that pricing determinations are not appropriate.

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[2] Docket No. 97I-198T is the proceeding established by the Commission to consider whether Qwest has complied with the provisions of 47 U.S.C. § 271. Compliance with those provisions would enable Qwest, a Regional Bell Operating Company, to enter the in-region, interLATA telecommunications market.

7. Because Qwest intends to file its § 271 application with the Federal Communications Commission (FCC) in the near future, and because the FCC will consider Qwest's rates for interconnection, UNEs, and resale as part of the formal § 271 application, the Commission finds that due and timely execution of our functions imperatively and unavoidably requires us to issue an initial decision in this case. *See* § 40-6-109(6), C.R.S.

B. The Telecommunications Act of 1996

1. The Act prescribes three methods to foster the development of a competitive telecommunications market: interconnection, unbundling, and resale. Interconnection allows competing companies to interconnect their networks with the monopoly network of the incumbent local exchange carrier (ILEC). Unbundling allows CLECs to purchase individual elements of the ILEC's network on a wholesale basis. Resale allows immediate entry using the ILEC's network on an avoided cost basis. These entry modes mitigate the network effects created and maintained by the ILEC by lowering entry barriers and making markets immediately contestable.

2. Under the Act and the FCC's implementing regulations, this Commission is charged with establishing the terms and conditions for resale, interconnection, and unbundling. In a competitive market, arms-length negotiations

would determine the terms and conditions. Contract law, not regulatory prescription, would govern the result. However, because of the historic regulated monopoly in the telecommunications market, leaving the terms and conditions of interconnection and unbundling up to arms-length negotiations would not result in an immediately contestable market. The incumbent would have the ability to utilize its superior market position to maintain its monopoly and block competitors. Therefore, transitional regulatory intervention is required to dictate default competitive terms and conditions.

3. A regulatory agency cannot anticipate and determine the terms and conditions for the infinite number of contractual provisions produced by a competitive market. Therefore, the goal of the transition regulation is to set a sufficient number of competitive terms and conditions such that the competitive providers have an adequate default negotiating position from which to determine individually-tailored interconnection and unbundling terms and conditions.

4. Here, based on the terms and conditions of the SGAT agreed-to or mandated in 198T, we set prices for Qwest's offerings according to the FCC's mandated pricing methodology.

C. The Legal Standard

The Act requires that prices for interconnection and unbundling be "based on cost" and "nondiscriminatory",

47 U.S.C. § 252(d)(1)(A)(i) and (ii). The FCC expanded on the statutory criteria, decreeing that interconnection and unbundling should be priced according to the total element long run incremental cost (TELRIC) methodology, plus a reasonable allocation of joint and common costs (TELRIC Plus). *First Report and Order*, CC. Docket No. 96-98, 11 FCCR 15499 (August 8, 1996); 47 C.F.R. § 51.501.

1. Forward-Looking

TELRIC is a "forward-looking" methodology. Prices are set based upon what it would cost to provide the products and services starting in the present and going forward. The prices are not to be based on the historical costs or investment costs. TELRIC assumes that the company is efficient and is utilizing the most up-to-date, commercially available technology, and network design. In a departure from TELRIC theory, the FCC has determined that the current location of the wire centers should be taken into account. This approach has been referred to as the "scorched node" approach, the network is "scorched" but the "nodes" are left in existence.[3]

[3] "TELRIC is an estimate of the cost of providing network elements at the level of output provided by the current network, using current wire center locations and the least cost, most efficient, currently available technology and procedures" (Ex. T, Fitzsimmons Rebuttal p. 12:14-16.)

2. Challenges

a. TELRIC pricing presents two fundamental challenges. First, there is the dispute about TELRIC as a pricing methodology. The wisdom of the methodology, its forward-looking incentives for both ILECs and CLECs, its takings clause implications: all these disputes have been playing out in front of the FCC, the Eighth Circuit, and the U.S. Supreme Court.[4] These disputes are immaterial to our deliberation here. Our duty is to follow the FCC's TELRIC mandate.

b. Second, and problematic for this Commission, TELRIC relies on predictions as to the future and analysis based on networks and companies that do not exist. In simple terms, the Commission is called upon to determine what the prices would be if a theoretical, efficient company were to build a telecommunications network starting today, using the most recent technology and bound only by the location of the existing wire centers.

c. This is no easy feat. For example, as discussed below, a question arises as to whether the rest of the physical world should be considered to exist when considering the fictional build out of a telecommunications network. In addition, the nature of network markets varies dramatically with

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[4] *See Iowa Utilities Board v. F.C.C.*, 219 F.3d 744 (8th Cir. 2000), *cert. granted*, 121 S.Ct. 878 (2001).

size and economies of scale. However, a company building a network from scratch would not immediately have the benefits of a sizable network and its economies of scale. Furthermore, the telecommunications technology is changing with sufficient speed and regularity to call into question when the forward look from the Act should begin: the day the pricing docket is opened, today, or the day the Commission's order is released. These notional problems with TELRIC infect the whole of this docket.

d. The greatest challenge for the Commission, however, is finding an analytic foothold from which to evaluate the respective merits of parties' pricing proposals. Because the pricing methodology is forward-looking and based on hypothetical, efficient, future-built networks, a whole range of plausible assumptions can produce disparate results. Despite the analytic uncertainty of TELRIC pricing, the Commission must nonetheless give its best-informed judgment about the TELRIC rates in Colorado using plausible and reasonable assumptions about the forward-looking costs of the network.

e. No one single TELRIC price exists for each service or good. Rather a range of reasonable TELRIC prices exists. As long as the prices set by the Commission fall within the TELRIC range of reasonableness, that price will satisfy the FCC's pricing guidelines.

D. The Implications

The implications of the preceding discussion are important. First, all pricing efforts, especially those conducted by regulatory agencies, are rough approximations. At best, the TELRIC methodology results in a "range of reasonableness." That the foundation of the FCC's pricing methodology is built on quicksand gives cause for concern. Further pause comes from the information asymmetries inherent in regulatory price setting. In other words, we admit upfront the modesty of our rate setting ability:

- Does the Commission believe that it has used appropriate TELRIC methodology? Yes.

- Does the Commission believe that it has chosen reasonable inputs to judge forward-looking costs incurred by an efficient firm based on the evidence in this record? Emphatically yes.

The rates set here are based on our best notion of the proper inputs into cost models that purport to yield TELRIC rates. The prices inevitably are the product of art, surmise and informed predication about forward-looking costs.

III. OVERVIEW OF PARTY POSITIONS AND TESTIMONY

A. TELRIC rates are arrived at through cost studies and computer cost models. Because the rates are forward-looking and based on a hypothetically efficient firm, the cost models are replete with assumptions supposedly to reflect these future

conditions. The evidence in this proceeding, therefore, consists of cost models presented by the respective parties, and rebuttal and critiques to the same.

B. The Commission's analysis of the hearing record focuses on three things: 1) the relative merits and transparency of the cost models; 2) the reasonableness of the assumptions underlying the cost models; and 3) whether the cost models give outputs that yield plausible, real world, TELRIC prices.

C. Briefly, we summarize the cost studies and models offered to us:

1. Qwest

a. Qwest submitted what it claims are TELRIC studies to support more than 400 proposed wholesale rates. Attached to Qwest witness Mr. McDaniel's Rebuttal Testimony are exhibits PRM-1 and PRM-2. *See* Hearing Exhibit R. These exhibits list the rates proposed by Qwest to be included in the SGAT as TELRIC-compliant. Qwest requests that the Commission adopt the costs and wholesale rates it has proposed.

b. Qwest relies upon a number of stand-alone models to generate UNE pricing. Qwest provided a Collocation Module for recurring and nonrecurring collocation charges. Qwest's Enhanced Non-Recurring Cost Study (ENRC) calculates one-time, non-recurring costs associated with establishing a service. Qwest used its CAPCOST program to develop capital

costs. *See* Hearing Exhibit A, *Brigham Supplemental Direct*. Qwest developed expense factors using its Expense Factor Base Module, later used by Qwest in its Wholesale Cost Model. Qwest also provided a model it calls the "Network Access Channel Model" (NAC) to generate investment costs for high capacity DS1 and DS3 loops. Qwest relied upon its switching module to develop the investment costs for the features that it proposes to add to the unbundled switch port. Qwest also introduced cost studies based upon its Loop Module (LoopMod), Switch Module and Transport Module in its July rebuttal testimony to provide data regarding the existing loop, switch, and transport rates. All of these models were admitted into the record in this case.

c. Qwest offered the following witnesses:

- Mr. McDaniel served as Qwest's policy and pricing witness.

- Mr. Brigham presented Qwest's cost studies for network elements, collocation, and other interconnection products and services. He explained the cost methodologies that underlie the rates Qwest is proposing.

- Mr. Kennedy described the collocation and other interconnection assumptions that underlie Qwest's proposed prices for the collocation and other interconnection products and services that are under consideration.

- In her prefiled testimony (Exhibits F, G, and H), Ms. Brohl described several of the products that are the subject of the cost studies that Mr. Brigham presented. During the hearing Ms. Malone adopted Ms. Brohl's testimony and was tendered for cross-examination.

- Mr. Hubbard described the network modifications, activities, and collocation steps that are needed to provide CLECs with line-sharing. His testimony supports the costs set forth in Mr. Brigham's testimony relating to line-sharing and the prices for line-sharing included in Exhibit PRM-1.

- Dr. Fitzsimmons provided economic testimony that supports the price that Qwest is providing for the high frequency portion of the loop.

- Ms. Gude described the adjustments that Qwest proposed to its TELRIC-based cost factors that were used in the cost studies that Qwest presented. Her rebuttal testimony responded to the various challenges other intervenor witnesses raised concerning the TELRIC-based cost studies that Qwest presented in its direct case.

- Mr. Buckley's testimony presented the results from Qwest's loop investment program, LoopMod v2.0. He also presented Qwest's alternative method for de-averaging the local loop.

- Ms. Albersheim testified regarding Qwest's Operation Support System (OSS), and in particular Qwest's Interconnect Mediated Access (IMA) electronic interfaces.

2. AT&T/WorldCom/XO (Joint Intervenors)

a. Joint Intervenors contend that Qwest's cost proposals do not comply with the FCC's pricing principles and therefore Qwest has not met its burden of proof. The Joint Intervenors proposed alternate rates on the elements at issue. Those proposed rates are attached to Joint Intervenor witness Mr. Hydock's Direct and Rebuttal Testimony as exhibit MH-1. *See* Hearing Exhibit Z. The Joint Intervenors argue that the only way to address what they characterize as a lack of competition

in the market for local services in Colorado is to revisit the existing rates for the analog loop, switching and transport elements. The Joint Intervenors also oppose Qwest's proposal for a compliance proceeding. They contend that Qwest bears the burden of proof in this proceeding to demonstrate that its proposed prices comply with TELRIC. Because it has not met its burden, Joint Intervenors contend Qwest's proposed rates must be rejected. Joint Intervenors request that the Commission reject the pricing proposals made by Qwest in this proceeding, and adopt the rate proposals of AT&T and XO.

b. Joint Intervenors offer HAI Model 5.2a as producing TELRIC pricing associated with the recurring charges for most UNEs. For nonrecurring charges, the Joint Intervenors rely upon the AT&T/WorldCom Nonrecurring Cost Model (NRCM). Joint Intervenors do not sponsor a collocation model. Where the Joint Intervenors do not have a model designed to price a particular element, they have modified Qwest's models to present their proposed wholesale prices.

c. WorldCom supplied a separate statement of position. WorldCom supported and endorsed the ATT/XO statement of position and limited its statement of position to issues involving collocation and directory assistance/operator assistance-related matters. WorldCom contended Qwest's collocation pricing is not consistent with TELRIC and offers

five primary reasons: 1) Qwest uses distance-sensitive cost assumptions (CLECs have no control over where their equipment is placed); 2) Qwest's approach is inconsistent with TELRIC because it is based, in part, on historic values and circumstances; 3) Qwest objects to use of non-Colorado data on collocation jobs; 4) individual case basis (ICB) pricing is unjustified and inconsistent with TELRIC, making it difficult for new entrants to plan, and the Commission to review, prices; 5) Qwest's failure to offer directory services and operator services on a UNE basis was unlawful and maintained that no competitive market for the services exists.

d. Joint Intervenors introduced testimony from the following witnesses:

- AT&T witness Mr. Denney offered an overview of the HAI Model 5.2a to support its TELRIC cost analysis.

- AT&T/WorldCom/XO witness Mr. Weiss responded to Qwest's proposed recurring and non-recurring costs as represented in Qwest's cost studies and whether they are TELRIC compliant. He also gave his opinion on the assumptions used by AT&T/WorldCom in the NRCM. Mr. Weiss recommended the cost of capital component to be used as well as proposed revisions to Qwest's expense factors.

- AT&T witness Mr. Hydock addressed policy issues including the need for the Commission to implement de-averaging based on cost, and re-examination of switching rates. He requested that the Commission review Qwest's proposed collocation and nonrecurring charges. He also proposed rates to the Commission.

- AT&T/WorldCom witness Gillan discussed UNE-P and related issues. His testimony also addressed the Operator Services/ Directory Assistance issues in the docket.

- AT&T/WorldCom/XO witness Mr. Knowles addressed the issue of collocation and specifically the rates proposed by Qwest for field verification for conduit occupancy.

- Mr. Caputo, on behalf of WorldCom, addressed the issues of directory assistance, operator services, directory assistance listing, databases, customized routing and call-related databases as proposed by Qwest in its filing.

- Mr. Lathrop for AT&T/WorldCom/XO addressed recurring and non-recurring costs and assumptions used by Qwest. He also discussed the concept of reusability as it related to collocation.

3. COVAD, Rhythms and New Edge

a. Covad focused on line-sharing issues, especially with the recurring and non-recurring charges for the high frequency portion of the loop (HFPL). Covad urged the Commission to set the recurring price for the HFPL at zero. Covad argued that of near equal importance are the prices the Commission will establish for the collocation of equipment necessary for line-sharing [primarily plain old telephone service (POTS) splitters], and the prices for other UNEs and services. Covad claimed Qwest's proposed non-recurring rates were overstated and unsupported. Covad requested that the Commission adopt its proposed HFPL rate. In addition, Covad contended it should not pay for what it characterized as

discriminatory and overstated pricing for collocation and installation of the equipment necessary to accomplish line-sharing.

b. Covad/Rhythms offered two witnesses:

- Mr. Gates on behalf of Covad/Rhythms and New Edge discussed collocation and line-sharing in his testimony to the Commission.

- Mr. Morrison on behalf of Covad/Rhythms and New Edge described a central office equipment (COE) engineering design method for line-sharing and collocation arrangements.

4. Sprint

a. Sprint contended Qwest's proposed costs for collocation-related elements are unreasonable, unjustified, and not compliant with TELRIC. According to Sprint, as the ILEC in Colorado, Qwest bears the burden of demonstrating to the Commission's satisfaction that its costs are forward-looking and related the elements to which they are allocated. Sprint maintained Qwest had not met that burden. Accordingly, Sprint urged the Commission to reject Qwest's proposed costs as they do not comply with TELRIC. If lower rates are ordered, Sprint requests that the Commission allow a true-up with Qwest, consistent with these new rates.

b. Mr. Wolahan on behalf of Sprint addressed the issues of non-recurring collocation costs and line-sharing.

He compared some of Qwest's proposed rates for collocation with those offered by Sprint in Nevada.

5. Pac-West Telecomm, Inc.

Pac West sponsored one witness, Mr. Sumpter, who testified about Qwest's end-office call termination rate. Mr. Sumpter sought confirmation that Qwest proposed a decrease of the end-office call termination rate from the current 331T rate.

6. OCC

a. The OCC focused on a discreet set of issues: 1) Qwest's failure to account for merger-related savings; 2) Qwest's use of a market-based cost of capital; 3) Qwest's line-sharing proposal; and 4) Qwest's proposal to de-average the state wholesale loop rates.

b. According to the OCC, Qwest's cost studies failed to account for the cost savings from the U S WEST/Qwest merger. The OCC also maintained that Qwest's proposed cost of capital was inappropriate. The OCC recommends a 9.55% cost of capital, based on 7.6% cost of debt and an 11.25% cost of equity. OCC supported adoption of a non-zero price for HFPL. The OCC claimed it had been unable to obtain enough information from Qwest to fully analyze its cost study. They argued that Qwest's plan for de-averaging might result in reduced competition in rural areas. The OCC requested that the

Commission defer ruling on Qwest's de-averaging proposal until the parties have a full opportunity to analyze the proposal.

c. The OCC sponsored:

- Mr. Towers, who presented testimony on merger-related cost savings, productivity gains and a suggested cost of capital to be used in a TELRIC study.

- Mr. Copeland, who addressed the issue of the pricing of the HFPL, with a reallocation of costs of the loop.

7. Staff

a. Staff argued for the Commission to order interim rates using a multiplier against rates from 331T. In the alternative, Staff recommended that the Commission adopt the HAI Model for UNE costs/rates and Qwest Collocation Model for collocation costs/rates. Staff claimed that Qwest inputs were too high and CLEC inputs were too low. They maintained the cost studies should be re-run using Commission-specified inputs. Staff recommended the Commission use Staff's inputs. Staff supported a positive recurring wholesale price for HFPL.

b. Staff's case, in thumbnail sketch, urged:

(1) Interim rates should be implemented immediately. Rates should be set at 75% of the Qwest proposed rates and the 0.75 multiplier should be applied to all rates established in 331T.

(2) The Commission should allow the parties to work "off-line" to develop satisfactory inputs and methodologies.

(3) The Commission should order Qwest to propose rate elements and prices consistent with the SGAT rate elements, for Phase II of this docket.

(4) All Qwest's proposed Phase I rates should be re-calculated.

(5) Phase II should include new products and services.

(6) Line-sharing: Non-recurring rates should be treated as any other UNE or interconnection element; recurring rates should begin at zero and be adjusted based on a usage study within Phase II.

(7) The Commission should commence a docket for purpose of rebalancing Qwest's rates and for reallocating overhead costs.

c. Staff presented its case through seven witnesses:

- Staff witness Ms. Quintana served as the policy witness and introduced the other Staff witnesses in the case. She also presented staff's recommendations for interim and permanent rates, provided a comparison of the rates proposed in this docket with those approved in Docket 331T and discussed the inter-relationship between this docket and Docket 198T.

- Staff witness Ms. Fischhaber presented staff's analysis of the cost models presented by the parties in this docket and presented staff's rationale for its recommendation on the appropriate model to be adopted in this docket.

- Staff witness Mr. Trogonoski recommended a cost of capital including proposed adjustments for goodwill associated with the Qwest merger and regulated/unregulated components.

- Staff witness Ms. McGee-Stiles presented staff's evaluation of, and proposal for, the labor rate inputs to be used in the cost models and studies.

- Staff witness Mr. Epley offered a comparison of Qwest's rates to those of other incumbent LECs and to Qwest's rates in other states in its region and presented a National Regulatory Research Institute report comparing UNE rates across the country.

- Staff witness Dr. Langland, *avec cravate,* presented staff's recommendations, discussed the appropriate price treatment of line-sharing, and discussed the economic principles and considerations of pricing decisions.

- Staff witness Mr. Molloy provided staff's analysis of the Collocation Cost Model and collocation cost studies offered by Qwest.

IV. PROCEDURAL ISSUES

A. Review of 331T Rates

Issue:

- ***Should the Commission review the rates set in the 331T docket?***

Party Positions:

Qwest: In order to challenge the 331T rates, a party must prove that the rate is not consistent with FCC pricing directives. No party has established that the rates adopted in the 331T are inconsistent with FCC pricing directives. There is no evidence that Colorado's rates for a given element are much higher than similar elements in other states. Staff's mere rate comparisons do not constitute a *prima facie* case against the 331T rates. Finally, the FCC's Synthesis Model (SM) confirms that Qwest's 331T rates are reasonable.

Staff: The Commission should reset the 331T rates on an interim and permanent basis using Staff's recommended process. Although the 331T rates are presumptively valid, circumstances have changed sufficiently such that the rates should be reviewed, *e.g.*, merger, technology improvements, business improvements, etc. Finally, TELRIC rates are not permanent and should be periodically re-examined when the evidence suggests it is appropriate, as it does here.

1. Conclusion

The Commission will review the 331T rates, but only recalculate those that are no longer within the TELRIC range of reasonableness.

2. Discussion

a. Despite the presumptive validity of the 331T rates, the nature of pricing is such that the rates should be periodically re-examined, especially where evidence suggests that particular rates are no longer appropriate. Periodic re-examination is pertinent because rates are based on TELRIC's "forward-looking" principles. Both the starting point and the nature of the costs change. While the age of the 331T rates is not dispositive in this regard, the changes in technology, the

regulatory field and the merger of U S WEST with Qwest persuades us of the need to review the 331T rates.

b. However, a review of the 331T rates does not imply that all of the 331T rates will be recalculated. A TELRIC pricing study creates a range of reasonableness. The Commission has already found the 331T rates to be TELRIC compliant. For the most part, the U.S. District Court for the District of Colorado agreed. *See U S WEST Communications, Inc. v. Hix,* 93 F. Supp. 2d 1115 (D. Colo. 2000). Many 331T rates are still within the TELRIC range of reasonableness. The Commission will not recalculate any existing rates unless the evidence presented here demonstrates that modification is necessary.

B. Use of Interim Rates

Issue:

- ***Should the Commission set interim rates by adjusting the 331T rates, or set permanent rates?***

Party Positions:

Qwest: Staff's proposal for interim rates is neither supported by credible evidence nor consistent with TELRIC principles. Staff's proposal is not based on sound policy or analysis, but rather "back of the envelope" calculations. In the event the Commission does adopt Staff's proposal for interim rates, 0.8791 is a more accurate multiplier.

Staff: The Commission should set interim rates by multiplying all of Qwest's proposed rates, including the 331T rates, by 0.75. Staff arrived at a multiplier of 0.75 via both "bottom-up" and "top-down" calculations. The interim rates should take effect within 2 weeks of the Commission's decision on Phase I and last until the entirety of Staff's process for

establishing permanent rates is concluded. The Phase I order should include a schedule for the parties' subject matter experts (SMEs) to meet to determine inputs to be used in the cost models. Phase II can take place after the conclusion of the 198T docket allowing consideration of a finalized SGAT. Finally, establishing interim rates will allow for the necessary time to consider reallocation.

1. Conclusion

Staff's interim rate proposal will not be adopted. The Commission will set permanent rates whenever possible. Interim rates will be considered only as a last resort.

2. Discussion

a. There is no reason to delay further in setting rates. The record here contains sufficient, credible information to set permanent rates in many instances. The rate-setting process, especially using a TELRIC standard, is inherently an approximate process.[5] This is true not only in the regulatory context, but in a competitive market as well. At some point, the entity setting the rates, be it a regulatory agency or a private company, must draw the line and proceed forward with the best available information. Staff's proposed delays could continue forever in search of the perfect price.

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[5] Indeed, Dr. Langland himself makes this point in his testimony. On the one hand, Dr Langland criticizes the imprecision and variability of TELRIC rate-setting. On the other hand, to call for more proceedings to attain greater precision seems inconsistent with his broader views about the futility of the pricing enterprise.

The parties have already had a sufficient amount of time to work both "off-line" and within the procedural structure of this proceeding to offer new rates. The Commission finds that there is insufficient incremental benefit to continuing the process of refining the rates.

b. Therefore, in the interests of finality and efficiency, this Commission will set "permanent" rates wherever possible. Interim rates will be considered only as a last resort and when the record is insufficient to set a permanent rate. The Commission will not apply Staff's multiplier to existing 331T rates to set interim prices. As noted above, the 331T rates are presumptively TELRIC compliant; therefore, the 331T rates will continue in an interim capacity until permanent rates can be set where applicable. The Commission will endeavor to set permanent rates for any interim rates adopted as soon as possible in Phase II of this docket.

C. Use of a Compliance Filing

Issue:

- ***Should the rates be determined through a compliance filing by Qwest following the Commission's order?***

Party Positions:

Qwest: Upon the Commission's decision, Qwest will make a compliance filing reflecting the new pricing proposals.

Joint Intervenors: Qwest's proposal for a compliance proceeding should be rejected as it lacks the procedural protections available in an evidentiary hearing.

1. Conclusion

A compliance filing will be used only where the record is incomplete.

2. Discussion

A general compliance filing is unnecessary. The parties have had sufficient opportunity to present their positions and the record is sufficient to set rates in most instances. The technical conference held after the hearing was intended to obviate the need for a compliance filing. Therefore, the Commission will utilize a compliance filing only where the record remains insufficient in some aspect. The rates attached to this Order shall be adopted by Qwest as part of its SGAT. This obviates the need for a compliance filing.

V. TOTAL ELEMENT LONG RUN INCREMENTAL COST (TELRIC) METHODOLOGY

A. Use of Historical Costs

Issue:

- ***Can a TELRIC cost study consider historical costs?***

Party Positions:

Qwest: A TELRIC-compliant cost study may be based on Qwest's historical costs.

Joint Intervenors: The FCC has explicitly rejected pricing methodology based on an existing network. Relying on Qwest's books as the basis for rates guarantees that the rates will not reflect the efficiencies that could be achieved if Qwest faced competition.

Staff: TELRIC-essential features are scorched node and forward-looking estimates of economic cost. Therefore, past costs are not part of future costs. Furthermore, TELRIC is a means of approximating costs incurred by an efficient competitor, not costs of an incumbent. Qwest's consideration of its historical costs fails to satisfy the forward-looking nature of TELRIC. Qwest's use of historical data carries forward all of the inefficiencies of the past.

1. Conclusion

A TELRIC cost study may consider historical costs as a starting point for determining the forward-looking costs.

2. Discussion

a. Even a "forward-looking" study must look forward from somewhere. That starting point may be historical costs. In order to determine what something might cost in the future, it is permissible to consider what it costs in the present. In fact, both of the primary cost studies presented in this docket are based on "historical" data. The HAI Model 5.2a, sponsored by Joint Intervenors, uses Automated Reporting Management Information Systems (ARMIS) data. Qwest's model uses Qwest's book costs. It is simply disingenuous for any party to argue that historical costs are not relevant to this proceeding.

b. The Commission emphasizes that the use of historical costs is a starting point only, from which forward-

looking adjustments are made to arrive at a TELRIC-compliant rate. Without any adjustment, the costs would fail to be forward-looking.[6]

c. As to the problem of carrying forward Qwest's inefficiencies, it is important to realize that Qwest's inefficiencies of the past are in some sense legitimate inefficiencies of the future. The TELRIC "efficient competitor" is a relative approximation. All companies have some inherent "inefficiencies." The TELRIC forward look requires the assumption of a relatively efficient competitor, but by no means a competitor that operates with absolute efficiency.[7]

B. Determining the Goal

Issue:

- ***Must TELRIC rates be set to ensure viable entry.***

Party Positions:

Qwest: TELRIC does not require that the Commission set prices to create or ensure viable entry.

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[6] Note, however, that if the forward look were no different from the historical situation, a scenario hard to fathom in the rapidly-developing telecommunications world, the necessary adjustment to arrive at a TELRIC rate would effectively be zero.

[7] An absolutely efficient competitor would also give the CLECs nothing to compete against. If, through perfect-seeing regulatory foresight, this Commission can divine the TELRIC rates of a perfectly efficient Qwest, then it would seem we could just mandate retail rates based on those TELRIC insights, regulate Qwest as a monopolist and cut out all of the messiness of CLECs, interconnection, and UNEs.

Joint Intervenors: Under TELRIC, the Commission must set rates to allow or ensure viable entry.

1. Conclusion

TELRIC does not require, nor will the Commission endeavor to set, rates to ensure viable entry.

2. Discussion

a. The FCC has been clear that ensuring viable entry is not a valid basis for TELRIC rate setting.

b. The Commission has repeatedly stated that incumbent LECs are not required, pursuant to the requirements of § 271, to guarantee competitors a certain profit margin. In the *SWBT Kansas/Oklahoma Order*, the Commission held that this profitability argument is not part of the § 271 evaluation of whether an applicant's rates are TELRIC-based. The Act requires that we review whether the rates are cost-based, not whether a competitor can make a profit by entering the market. In this case, we have conducted an analysis of SWBT's recurring UNE rates and concluded that their rates meet this requirement. Questions of profitability are independent of this determination.[8]

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[8] *In The Matter of the Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. D/B/A Southwestern Bell Long Distance pursuant to § 271 of the Telecommunications Act of 1996 to Provide In-region, InterLATA Services in Arkansas and Missouri*, CC Docket No. 01-194, Memorandum Opinion and Order ¶ 65 (November 16, 2001).

c. The UNE and interconnection pricing done here is "bottom up," based on TELRIC costs. By definition, this costing methodology does not look to the profitability of entry. Accordingly, this Commission does not look to whether the rates set here provide for viable competitive entry.

C. The Use of Rate Comparisons

Issue:

- ***To what extent should rate comparisons be considered when setting TELRIC rates?***

Party Positions:

Staff: Staff's rate comparisons are not intended to be statistically valid, but rather are provided for background information. Qwest's rate comparisons are not appropriate.

Sprint: Sprint's wholesale rates from Nevada are relevant to this proceeding and demonstrate that Qwest's proposed rates are excessive.

1. Conclusion

Rate comparisons are valid only as a reference to a zone of reasonableness with regard to setting TELRIC rates.

2. Discussion

a. Because of the innumerable factors and varieties of rates, straight-rate comparisons are of little analytical value. However, because of the range-of-reasonableness nature of TELRIC, the presence of FCC-approved TELRIC compliant § 271 application rates, and the importance of

setting the proper rates, rate comparisons are not entirely invalid.

b. The Commission will consider the provided rate comparisons provided as a secondary check upon the zone of reasonableness of the rates that the Commission establishes. Rate comparisons will not be used to establish rates from the outset.

D. Cost Models

Issue:

- ***Which cost model should the Commission rely on in setting the rates?***

Party Positions:

Qwest: Qwest supports continued use of the unbundled loop rate from 331T. The LoopMod Model serves as a tool for de-averaging.

The HAI Model does not produce a just and reasonable rate for the unbundled loop. The HAI Model understates the cost of UNEs and should not be adopted. If adopted, most of the major cost-driving inputs should be adjusted. Three crucial flaws in the HAI Model exist:

1. Uses a flawed method for grouping customers into distribution areas and building plant to them;

2. Uses inputs that the Commission, other state commissions and the FCC have repeatedly rejected; and,

3. Produces unrealistically low cost estimates that cannot be validated by any real-world experience.

Joint Intervenors: The Joint Intervenors rely on the HAI Model 5.2a for recurring charges and the AT&T/WorldCom

Nonrecurring Cost Model for nonrecurring charges. Where no model exists for a particular element, the Joint Intervenors have modified Qwest's models.

Qwest's models first calculate the investment required and then apply capital cost, maintenance and expense factors. The HAI Model is based on estimates of forward-looking expenses that would be incurred by an efficient firm.

Qwest's LoopMod cost studies were submitted only as evidence that the Commission should not revisit the loop rate, not to determine the loop rate. Qwest did not file a cost study for the unbundled loop until July 20, 2001. As a result, the parties did not have sufficient time to review the study. Therefore, the Commission should not consider the Qwest model in establishing unbundled loop pricing. The Commission should accept the HAI Model to establish the unbundled loop rate.

Staff: The Commission should adopt the HAI Model and the Qwest Collocation Model and should adopt staff's recommended inputs.

Qwest's model is insufficiently documented and difficult to run. Furthermore, the model algorithms and some data are inaccessible, preventing full analysis. The factors calculated in Qwest's Expense Factor Module are calculated incorrectly. (The factors were calculated by making productivity and inflation adjustments to '99 data to create '01 values.) The investment-based factors are then applied globally to both investment-based (recurring) and direct or non-investment based (non-recurring) costs. Qwest's method results in three basic flaws:

1. Use of historic booked expenses (from 1999) that contain both recurring and non-recurring costs, whereas historical investments contain only recurring costs;

2. Qwest recovers 100% of its expenses through recurring rates; additional recovery of expenses through non-recurring rates is recovery over and above TELRIC; and,

3. Qwest investment-based factors are applied to direct (non-recurring) costs, creating counterintuitive results when changes to investment are made.[9]

The cumulative mistakes undercut staff's confidence in Qwest's cost studies (*e.g.*, incorrect Colorado state tax rates, using average hold time for Arizona in the shared transport cost study, etc.). Finally, Qwest's cost studies fail to comply with Colorado law (4 CCR 723-27 and 4 CCR 723-30).

The HAI Model is superior due to the accessibility of data and algorithms, methodology, adaptability, ease of use and background and supporting documentation. However, the HAI Model is not the ultimate TELRIC model, just more TELRIC-compliant than Qwest model. Previous anomalies and errors found in Staff's analysis of the HAI Model have been corrected or determined to be insignificant.

1. Conclusion

The Commission will not utilize one model to the exclusion of another. All of the models submitted use TELRIC methods and will be utilized, as appropriate and with Commission-modified inputs, to establish rates within the TELRIC range of reasonableness.

2. Discussion

a. Both of the primary cost models, Qwest's "LoopMod" and HAI Version 5.2a use TELRIC methods. Staff's position states as much. Staff witness Dr. Langland further testifies that if the models are run with the same inputs, then

[9] For example, when cost of money decreases, one would expect all UNE costs to decrease, but with Qwest's model, the investment based (recurring) costs decrease while the direct (non-recurring) costs increase.

the outputs would be substantially similar. This suggests that both models fall within the TELRIC range of reasonableness.[10]

b. Neither model is manifestly superior to the other. Both models have "black box" components, or aspects of the model that are not open to analysis. The underlying assumptions for the respective models also fall short in different respects.

c. Qwest's LoopMod suffers from the use of the same five generic density zones that are applied to every wire center analysis, without rigorous regard to actual customer location. Meanwhile, HAI's customer placement distribution information is opaque. It could be fairly stated that both models "died a death of a thousand cuts" during the two-week hearings. Despite the shortcomings, neither respective models' insufficiencies rendered it useless in predicting TELRIC prices.

d. As to Staff's concerns about the documentation of Qwest's LoopMod Model, the Commission finds that Qwest made sufficient efforts to ensure that Staff was able adequately to analyze the model.

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[10] In fact, the Commission's experience with running both the HAI and LoopMod models with the same inputs now supports Dr. Langland's hypothesis that the outputs would converge. *See* Langland Testimony, Vol. 9 Transcript of 8/16/2001 at p. 306:2-21; *see also,* Hearing Exhibit T, Fitzsimmons Rebuttal p. 14:16-19.

e. The key factors in model selection are compliance with TELRIC principles through methodology and output. Both models were operable in the Commission's technical conference; therefore, both models satisfy the threshold of required usability.

f. Despite Qwest's initial position that the LoopMod was for de-averaging only, the Commission finds its use in setting rates advantageous as a secondary check. The Commission will review the 331T rates as stated above and leave those in place that are still TELRIC-compliant. However, for those rates that are to be recalculated, the LoopMod is a helpful tool. To the extent that the use of the LoopMod model will only serve to lower the existing 331T rates where applicable, and to the extent that the Commission will not rely solely on the HAI Model, we find the Joint Intervenors' resistance to the use of the LoopMod model unfounded.

g. Qwest's switching model was provided only in the rebuttal case. As a result, no rates set here rely on the switching model.

h. The Commission will utilize LoopMod and HAI Models in setting TELRIC compliant prices. However, the Commission will look primarily to the HAI Model using the Commission's modified inputs set forth below in setting the loop

rates, and when revisiting rates due to its ease of use and manipulation.

i. The HAI Model is preferable to Qwest's LoopMod because the HAI uses actual customer locations to the extent possible. Where actual customer locations are not available, the HAI Model uses surrogate customer locations placed uniformly along roads in the census blocks where the customers are located. Thus, the HAI Model will develop necessary distribution plant to serve actual customers. In contrast, Qwest's LoopMod assumes an average investment based upon standardized designs. This is less accurate. Furthermore, the HAI Model will permit the UNE loop price disaggregation to be completed down to the necessary level of particularity of two or more zones per wire centers, based upon cost data for exact customer location. This is impossible with the Qwest LoopMod model.

j. Within these cost models are numerous structural and input assumptions that affect the resulting costs determined by the models. In this proceeding, the results of a multitude of costing analyses have been presented in testimony supporting such results as the basis for pricing interconnection and UNE rate elements. In response to this testimony, numerous witnesses have critiqued these studies. For the sake of brevity, we will not separately address in this decision each

issue brought forth regarding assumptions in cost modeling.[11] However, we briefly address several issues that helped to guide our decision regarding the appropriate rates to assign to the various interconnection and UNE elements. Generally, these issues can be categorized as input assumptions, although a few of them could be thought of as model structural issues (*i.e.*, AT&T's DS1/DS3 algorithm), that affected the issue of primary contention in this proceeding: the pricing of the loop UNE.

k. In essence, we agree with the testimony of various witnesses that the input assumptions constitute the main difference in the results from the cost models.[12] The following paragraphs provide a brief description of the more prominent assumptions that we weighed in developing the recurring rates ordered in this decision.

VI. MODEL INPUT VALUES

A. Customer Placement

Issue:

- ***How should customer locations be determined in the forward-looking network; should the Minimum Spanning Tree (MST) algorithm be used?***

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[11] Among others, for instance, *See* Exhibit 1, pp. 36-79; Exhibit 2, pp. 3-55; Exhibit 3, pp. 13-23, 26-31, 34-52; Exhibit 4, pp. 7-68; Exhibits 8-9 and 11-12, Exhibit 15, pp. 35-42; Exhibits 24-26 and 30-32; Exhibit 36, pp. 13-63; Exhibit 37, pp. 11-19 for testimony on the subject of modeling of recurring cost elements and the associated input assumptions.

[12] *See*, for instance, Exhibit 4, p 19.

Party Positions:

Qwest: The customer placement in the LoopMod is based on the architectures that Qwest uses in its networks. Five different density groups are used to reflect the unique customer placement within a particular area.[13] The investment required to serve each density group is applied per working line within each of the density groups.[14]

The HAI Model distribution is flawed for several reasons:

1. The customer location data from 1997 is outdated;

2. Discrepancies in the distribution area calculations between HAI 5.0 and 5.2a, suggest that the 5.2a calculations are insufficient; and,

3. The MST produces a theoretical minimum distribution distance, understating the actual distribution required.

The MST algorithm ignores the realities of a real world distribution network that must be designed around lakes, rivers, buildings, etc. Evidence from a Minnesota cost proceeding shows that a real-world network requires about 20% more plant than the MST function predicted.

Finally, the distribution areas in the HAI Model are based upon proprietary information that is not publicly available, making adequate analysis impossible.

AT&T: The HAI Model is designed to place distribution plant where customers are actually located. The process, using uniform distribution, likely overestimates the actual dispersion of customers. Responses to Qwest's critiques:

1. The customer location data has been updated for this proceeding;

2. The difference between HAI 5.0 and 5.2a are attributable to changes designed to bring the model closer to the methodology used by the FCC; and,

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[13] The five distribution designs or density groups are: high rise buildings, multi-building/multi-tenant scenarios, single family with standard lots sizes, single family with larger lots, and rural serving areas.

[14] Based on 1998 data.

3. The MST function provides for right angle routing similar to what one would expect to find in the network of a local exchange carrier.

1. Conclusion

The MST algorithm will not be used.

2. Discussion

The MST algorithm represents the extreme-end of TELRIC reasonableness. The customer placement based on MST is not representative of the real world considerations that are properly taken into account in a TELRIC study. Despite the scorched node approach, TELRIC does not require ignoring other real world limitations or sources of network placement cost such as buildings, rivers, lakes, etc. Therefore, the MST results in drop lengths that are too short. In running the HAI Model, the Commission concludes that the MST feature should not be used because it will result in consistent undercompensation to Qwest, even under TELRIC pricing.

B. Drop Lengths

Issue:

- ***What is the proper estimated/averaged drop length (wire length from customer placement location to actual customer interface)?***

Party Positions:

Qwest: The drop length should be approximately 136 feet. The current average drop length in Colorado is 136 feet. Evidence

from drops in several states, including Colorado, reveals an average drop length of approximately 150 feet. The Joint Intervenors fail to support their 69-foot drop length.

Joint Intervenors: HAI Model uses an average length of 69 feet. Qwest's drop length analysis is flawed. For example, Qwest excludes multi-tenant dwellings, exaggerating the average drop length. In addition, some of Qwest's estimate values are questionable, *e.g.*, some of the estimated drop lengths are equal to the circumference of entire lot.

1. Conclusion

A 75-foot average drop length is a reasonable figure when multiple dwelling units are considered.

2. Discussion

a. The drop lengths advocated by Qwest and the Joint Intervenors have deficiencies. The drop lengths used by Qwest's study failed adequately to incorporate the multi-tenant units that would significantly reduce the average drop length. The drop length of the Joint Intervenors is not well supported by Colorado-specific data. Given our concerns with the two extremes of drop lengths we believe that an average (statewide) drop length of 75 feet is a reasonable middle ground that gives recognition to the flaws of both proposals.

b. This 75-foot drop length is supported as a forward-looking drop length figure by taking into account Qwest's current statewide average drop length, and then accounting for the effect multi-tenant units have on reducing that average.

C. Placement Costs

Issues:

- ***Placement costs are those associated with placing cable, including costs for trenching or boring, and the frequency that those placement methods will be used in placing buried cable. Placement costs for buried cable make a significant portion of the investment (and hence the ultimate cost) for the unbundled loop in both the HAI and Qwest's LoopMod. What costs attributable to placement should be used in a forward looking cost model?***

Party Positions:

Qwest: The density of an area as it currently exists is the primary factor that determines the placement method that LoopMod uses to place cables. A TELRIC model must recognize the world as it currently exists. As a result, sometimes more expensive placement techniques are required. However, LoopMod utilizes the less expensive techniques to the extent possible.

Joint Intervenors: The HAI Model assumes that buried cable will be placed whenever possible before structures such as roads and landscaping are already in place. LoopMod's approach is contrary to TELRIC methodology.

The FCC's criteria requires determining whether the activities at issue are part of a large scale project or a smaller project, and an analysis of the placement activities that would be used in placing plant. Qwest's proposed costs fail these two criteria. Qwest relied on pricing from contracts from small jobs only, which have higher costs. The HAI Model uses a per foot cost of $1.77 for placing buried plant in trenches in rural areas, and $0.80 for plowing cable in lowest density zones.

1. Conclusion

The costs attributable to placement of buried cable should be those determined in a forward-looking environment. The appropriate cost model should assume efficient placement techniques being used by the ILEC and assume that

some, but not all, placement activities would require boring and cutting of concrete.

2. Discussion

Even in urban areas most ILECs, including Qwest, place facilities in the ground before obstructions are built. Qwest's LoopMod exaggerates placement costs because Qwest assumes that a high percentage of all installation jobs require cutting and restoration of concrete, asphalt or landscaping. The HAI Model assumes a more reasonable presumption that in a forward-looking environment, cable will be placed most often before obstructions are built and thus a smaller percentage of jobs will require expensive boring, landscape replacement, or cutting and replacement of asphalt or concrete. Therefore, we adopt the HAI input assumptions on placement costs.

D. Plant Mix

Issue:

- ***What is the relative percentage of the network facilities that are buried, placed in underground conduit and placed attached to poles (aerial)?***

Party Positions:

Qwest: The most reliable indicator for the proportion of aerial plant in a forward-looking network is the actual percentage of aerial facilities in Colorado. Qwest uses aerial facilities for 12.3% of its cable. The HAI Model assumption of a high percentage of aerial plant is unrealistic, especially given the trend towards less aerial cable (*e.g.*, a law in Boulder County that requires all

utilities facilities be placed underground). Furthermore, the existing standard engineering practice is to use buried plant instead of aerial plant, whenever possible.

Joint Intervenors: HAI Model uses a default value for plant mix that assumes aerial facilities for 25% of all placement in low-density areas to 85% in high density areas. The weighted average of aerial plant in Colorado is 28.9%. The HAI aerial percentage is well below the value accepted by the FCC as forward-looking. Also the 28.9% is close to the 24-29% reported by Qwest in its ARMIS reports.

1. Conclusion

The cost models will factor in an average of 20% aerial plant.

2. Discussion

The Commission has determined that the existing physical structures must be taken into consideration when determining the price of building a network on a forward-looking basis. As a result, a higher percentage of aerial plant than Qwest proposes should be factored into the cost models. Conversely, HAI uses an inflated estimate of the forward-looking percentage of aerial plant. While this results in lower costs and hence prices, it is not a realistic assumption on a forward-looking basis, particularly given the aesthetic preferences that lead to decreased aerial plant. Twenty percent aerial plant is an equitable figure.

E. Structure Sharing

Issue:

- ***How much sharing of network structure among utilities should be factored into the costs?***

Party Positions:

Qwest: In order to achieve any cost sharing, there must be a need for multiple providers to access a certain area at approximately the same time. If an area already has power and cable TV, a TELRIC study cannot include cost sharing. A TELRIC study must assume that the telecommunications plant will be rebuilt in areas where other providers (*e.g.*, power, cable) are already in place.

LoopMod assumes the telephone company will pay 50% for aerial cable, 80% for buried (trenched) and 95% for placing underground cable (boring, or cut and replace). The LoopMod figures reflect the reality that sharing will occur primarily in undeveloped areas. Qwest's assumptions are based on actual experience.

The cost sharing assumptions in the HAI Model have been rejected by the FCC and other state commissions. The cost sharing assumptions are also contradicted by the model's heavy reliance on the plowing method for placing buried cable. While this method is generally less expensive, sharing of facilities using this method rarely occurs. In fact, from February 2001 to July 2001 in the city of Denver, 20 permits to install cable in the downtown area were granted without a single incident of facility sharing.

Joint Intervenors:

The HAI Model assumes that on average Qwest will only be responsible for little more than one third of the cost of placing distribution, feeder, and transport cables for a newly constructed network in Colorado. The HAI figure is based on the fact that there are generally three providers of utilities over similar types of facilities: electric, telephone and cable. Qwest's sharing assumptions do not assume the same sharing opportunities that would have existed when its plant was first built.

1. Conclusion

We agree that the sharing assumption in a TELRIC model should reflect that the Carrier will have at least the same opportunity to share the cost of building the outside plant as existed when the plant was built.

2. Discussion

a. The fundamental question involved is whether to factor in the sharing opportunities that would exist if other utility networks were being constructed at the same time as the telecommunications network. The Commission has already determined that the world's physical structures as they exist should be taken into consideration when pricing a "forward-looking" telecommunications network. However, such a determination is not dispositive with regard to whether the other utility physical structures should be factored in as they currently exist, or as if they were also being built-out in a forward-looking manner. In fact, the issue here is more complex, as the structure sharing opportunities will be more prevalent in newly-constructed areas and less so in previously developed areas. Qwest's variable approach based on the type of plant (aerial, buried or placed) is an adequate approximation of the existing sharing opportunities.

b. Joint Intervenors/ position suffers from too much simplicity. It is not tenable to argue that because there

are three basic utilities that all of Qwest's structures can be shared three ways. Furthermore, one of the utilities -- cable -- has historically enjoyed very little obligation to pay for shared structure.

c. The Commission agrees that the use of the sharing factors as proposed by the Joint Intervenors understate the cost a carrier might encounter in placing plant in a forward-looking environment. The Commission will use 50% sharing in the most dense zones.

F. Line Counts

Issues:

- ***Should the line count information be based on publicly available data or Qwest's confidential data on the actual line counts in Qwest's network?***
- ***Should digital access lines be treated on a channel-equivalent basis?***

Party Positions:

Qwest: The line count data should be based on the confidential information regarding the actual DS1 business circuits in Qwest's network. The FCC has endorsed the use of DS1 business circuit line counts for use in a forward-looking cost model.

In addition, digital access lines should not be treated on a channel-equivalent basis (DS1s treated as 24 physical lines, DS3s as 672 lines). There are not 24 physical loops in a DS1. The result of using a channel-equivalent basis is an inflation of the number of lines over which the cost of building loops could be spread. The FCC and a majority of state commissions in Qwest's region have ruled that access lines should be treated on a physical-pair basis, not as channel equivalents. The HAI Model still includes digital business lines on a channel-equivalent basis.

AT&T: Use of the per channel line counts allows continued reliance on public information, rather than proprietary information that is under Qwest's control. Even Qwest's own internal line count data fluctuates, suggesting questionable accuracy.

1. Conclusion

a. The line count information should be based on the publicly available data.

b. Digital access lines should not be treated on a channel equivalent basis.

2. Discussion

Use of publicly available data allows the parties to fully analyze the inputs into the cost models. Qwest has failed to demonstrate that use of the publicly available data is sufficiently inappropriate to justify the use of confidential information. Digital access lines will not be treated on a channel equivalent basis, as that would systematically distort the line counts. The Commission has used both models and the results of our analysis are included in Attachment A.

G. Fill Factors

Issue:

- ***What fill factors -- the relationship between the capacity of plant and the amount of the plant that is used -- are appropriate for the analog loop rate?***

- ***What fill factors, factors that determine the total materials investment required to provide a single high capacity loop, are appropriate relative to high capacity loops?***

Party Positions:

Qwest: LoopMod assumes a living unit will have two or three pairs, depending on the density group. Qwest's assumption recognizes that it is easier to install the pairs up-front.

Different types of equipment in network have different levels of actual utilization. Qwest's utilization rates are not understated for DS1 and DS3 capable loops. In an OC3 architecture, demand across multiple locations cannot be aggregated to calculate a utilization rate.

Joint Intervenors: The fill factors should be 65%. The fill rates used by Qwest do not provide a reasonable projection of what Qwest would experience in total demand on a forward-looking basis. Qwest has considered only the capacity that Qwest itself supplies to end users, rather than all of the demand for the element. The Commission should use a fill factor of 85% for all optical and digital equipment, and facilities in all of Qwest's recurring cost studies.

1. Conclusion

Qwest's modeling of two or three pairs per location inappropriately overstates demand and results in unacceptably low fill factors in LoopMod. Feeder plant and distribution plant will have fill factors that differ by density of served area. The use of 80% fill in feeder plant in the most dense zones and 50% to 75% in the distribution plant is appropriate. As to fill rates for DS1 and DS3 capable loops, Qwest has used rates that understated those that would be used in a forward-looking environment. The fill factors proposed by the Joint Intervenors will be used.

2. Conclusion

The Commission agrees with the Joint Intervenors that the use of the fill factors as proposed by Qwest overstate the capital cost a carrier might encounter in placing plant in a forward-looking environment. The price, if based upon Qwest's fill factor assumptions, would cause excess capital investment and hence the current purchasers of the DS1 and DS3 capable loops would be supporting some ultimate demand rather than current demand, including an amount of capacity that meets a reasonable estimate of additional demand. The Commission will use the fill factors for DS1 and DS3 as proposed by the Joint Intervenors.

H. Total Installed Factor (TIF)

Issue:

- ***What is the appropriate Total Installed Factor (TIF)?***
- ***Should a warehousing expense be included?***

Party Positions:

Qwest: TIF is a cost factor that combines all proper investment loadings into one factor that, when multiplied against material investments, provides a total installed investment. TIFs are applied to material investments to inflate those investments to account for costs such as installation, maintenance, transportation, warehousing, power and taxes. Qwest's proposed TIFs are based on historic information dating back to 1997. Using actual average costs is more accurate than relying on engineering estimates and is appropriate in forward-looking cost studies.

Warehousing is a necessary expense, especially given Joint Intervenors' argument that Qwest's UNE costs should include significant economies of scale. To achieve the economies of scale Qwest must be able to put the equipment somewhere.

Joint Intervenors: Qwest has inflated its investment by applying TIFs that are substantially higher than those that would be achieved by an efficient provider. Because Qwest's TIFs are based on its booked expenditures, they reflect Qwest's existing practices and procedures rather than the forward-looking, most efficient practices required by TELRIC. TIFs in the range of 1.14 to 1.34 times material costs should be adopted.

In addition, the Commission should remove from TIFs all expenses associated with warehousing

1. Conclusion

The TIFs will be modified with a 4% productivity/inflation factor applied.

2. Discussion:

a. Qwest's TIF factor represents a reasonable forward-looking cost. Warehousing is an appropriate expense to be included in Qwest's TIF. Nevertheless, we reduce Qwest's TIF by the 4% net inflation/productivity offset, discussed *infra*.

b. We reject Joint Intervenors objections about Qwest's TIF and their proposals as well. Joint Intervenors' proposed TIFs reflect more on their aggressive desire to see lower prices than on a realistic assessment of forward-looking prices.

I. Work Times and Probabilities

Issue:

- ***What are the proper work times and probabilities to be factored into the non-recurring cost models?***

Party Positions:

Qwest: Qwest's Nonrecurring Cost Model uses appropriate work times and probabilities. Qwest's estimates are supported by real-life experience and SMEs. The intervenors' proposed reductions of the time estimates included in Qwest's non-recurring costs are without support.

AT&T: Qwest's SMEs overstated the time and probability figures used in Qwest's Non-recurring Model. The activities performed by the service delivery implementor are improperly included, because they are duplicated in the service provisioning process.

1. Conclusion

Qwest's work times and probabilities are generally acceptable, and will be adjusted only by the 4% net inflation/productivity factor.

2. Discussion

Consistent with our discussion of inflation/productivity later in this order, a net of four percent will be used to adjust the work times and probabilities. Beyond that gross adjustment, Qwest met its burden in demonstrating the reasonableness of its cost studies and modeling of work times and probabilities.

J. OSS Assumptions

Issue:

- ***What is the proper level of electronic order "flow through" to be factored into the cost studies?***

Party Positions:

Qwest: The 85% flow-through rate that Qwest uses is a forward-looking target; because the 85% rate is not yet being achieved it cannot be an overstatement. A 100% flow-through assumption is unrealistic. For unbundled elements eligible for electronic order processing, as many as 15% of the orders will fail to "flow through." For example, as of April 2001 Qwest was still receiving 12.7% of its orders from CLECs via fax in Colorado.

Qwest is entitled to compensation for the additional costs that result from an order that fails to "flow through." It would violate the cost recovery provisions of the Act to require Qwest to process the manual orders without compensation.

The Joint Intervenors' recommendation assumes that Qwest should be using systems that are not currently available (fully mechanized OSS standard).

AT&T: Qwest has made no adjustments to reflect the efficiencies that would be achieved by forward-looking OSS systems. Qwest's studies presume that manual processing will be required for an unnecessarily high number of elements and orders. All of the orders Qwest receives should be assumed to be electronic, as they would be in a forward-looking network.

1. Conclusion

An 85% flow through rate is an acceptable forward-looking estimate.

2. Discussion

The Joint Intervenors' proposal to include 100% electronic flow-through is unrealistic. Although 100% flow through would occur in an ideal forward-looking network, TELRIC does not require an assumption that even a "forward-looking" network will be an ideal forward-looking network. Therefore, a level of electronic order flow-through of less than 100% is appropriate. Qwest's proposed figure represents a flow through percentage higher than is currently achieved. Qwest's figure also strikes us as a plausible forward-looking assumption. We adopt Qwest's figure on flow-through rates.

K. Disconnection

Issue:

- ***Is Qwest entitled to recover a disconnection charge; is that charge appropriately recovered as part of the up-front non-recurring costs?***

Party Positions:

Qwest: Qwest incurs real costs to disconnect customers, therefore, Qwest is entitled to recover a disconnection fee. The disconnection costs are incorporated into an initial non-recurring charge because it is often difficult to collect disconnection charges from customers who no longer require service. Furthermore, because many of the CLECs are in financial trouble, the uncollectable risk is even higher.

Joint Intervenors: No up-front disconnection charge is appropriate. In most circumstances a disconnect charge will never be required, *e.g.*, if service is transferred from CLEC to Qwest there is no need to disconnect the elements. In the

event that a disconnection charge is appropriate, the business to business relationships between CLECs and ILECs ensures that there is no real risk of non-compensation for the disconnection cost.

1. Conclusion

Qwest's up-front disconnection charge is appropriate.

2. Discussion

Qwest is entitled to recover the actual costs of disconnection. Collecting the charge up-front is an appropriate protection against the risk of default. The Joint Intervenors' suggestion that mere "business to business" relationships will ensure 100% collectability of a fee when no relationship directly related to that fee is still ongoing, is extremely idealistic and hence unrealistic. Finally, situations in which Qwest takes over the service and no disconnection is in fact needed, are already not included in the disconnection charge.

VII. CAPITAL AND EXPENSE FACTORS

A. Capital Costs

Issue:

- ***What should be the estimate of the capital costs?***

Party Positions:

Qwest: A forward-looking mix of debt and equity valued at market cost should be used to determine the cost of money in this proceeding. The book values of debt and equity from

historic accounting records and financial statements do not meet the mandates of TELRIC.

A 10.3% (a revised figure, from 10.43%, would be included in the compliance filing) cost of capital should be used, based on a market based capital structure of 25.3% debit capital and 74.7% equity capital with a current cost of debt of 7.6% and an equity cost of 11.25%. Qwest's proposed capital structure (75% equity, 25% debt) was determined using the market valuation of three comparable Regional Bell Operating Companies (RBOCs) and various "comparable" companies. The cost of debt was updated by Qwest from its initial filing with the use of its internally-generated incremental capital cost study for the first calendar quarter of 2001.

The Joint Intervenors' proposal relies on a historical perspective and thus does not satisfy TELRIC.

Joint Intervenors: Recommend capital structure be based on Qwest's historic actual book capital structure. A 50% debt and 50% equity proportions should be used. The resulting weighted cost of capital using each proponent's capital structure and associated costs result in: Qwest 10.33%, Staff 9.79%, OCC 9.55% and Joint Intervenors 8.875%.

It is not appropriate to use a "market" cost of capital, since the Commission rejected Qwest's proposal to do so in the prior cost docket.

The Commission should adopt the 11.25% cost of equity but use a 6.5% cost of debt derived from a 2000 Qwest report.

OCC: Qwest cost of capital is inappropriate. A 9.55% cost of capital should be used, based on 7.6% cost of debt and an 11.25% cost of equity. This proposal matches the 2001 TELRIC period, and reflects how Qwest actually financed its network.

The FCC defined TELRIC as a cost similar to the costs an ILEC actually incurs. A 46.6% proportion of debt and 53.4% proportion of equity should be used in the capital structure based on a Qwest reported capital structure at April 30, 2001. Using Qwest's April 30, 2001 capital structure best reflects how Qwest actually financed its network. Therefore, this

approach is TELRIC-compliant. The Commission rejected Qwest's proposal in the 331T docket.

Staff: A cost of capital 9.79% should be used, using imputed capital structure consisting of 60% equity and 40% debt, stipulated cost of equity of 11.25% and the current cost of debt of 7.60%. This imputed capital structure is based on book values for the three comparable RBOCs, Qwest's reported capital structure, an adjustment for regulated/deregulated operations, and goodwill related to the U S WEST and Qwest merger.

It is not appropriate to use straight book numbers because Qwest's equity will increase as a result of the drastic reduction in the dividend payment and Qwest faces more risk in certain non-regulated services (*e.g.*, DSL).

The burden of proof is on Qwest to demonstrate that its business risk justifies a different risk-adjusted cost of capital. Qwest has not met this burden. Qwest is now facing less competition in the local exchange market in Colorado and the cost of debt has declined as the Federal Reserve has adjusted the interest rate. Staff's recommendation accounts for these changes; Qwest's does not.

The Commission should adopt the Washington approach and conduct a biennial revision of the cost of capital, specifically to update the cost of debt.

Qwest's use of "comparable" companies is problematic since many of the companies are significantly different, and not capital intensive. Current market valuations fluctuate daily. Staff's analysis of "comparable risk" companies results in 52% equity and 47% debt.

1. Conclusion

a. The OCC's 9.55% cost of capital is appropriate.

b. The Commission will adopt a capital structure of 46.6% proportion of debt capital and 53.4% proportion of equity capital.

2. Discussion

The Commission recognizes that the 7.6% cost of debt may be overstated in the current environment. Interest rates and hence the cost of debt has been reduced numerous times by the Federal Reserve authorities since the first quarter of 2001. We balance this possible overstatement of debt cost with a more balanced capital structure as proposed by the OCC, derived from information provided by Qwest on April 30, 2001. We note that all elements of Qwest's capital structure are normally dynamic and subject to constant change with issuance of new debt, refinancing of existing debt, and daily changes in stock price. With this in mind, we find that the capital structure components that we adopt and the overall weighted cost of capital of 9.55% are reasonable assumptions and inputs that should be entered in the cost models as introduced by the parties in this docket. The OCC's figure is based on suitable assumptions for use in a TELRIC environment to produce TELRIC wholesale rates.

B. Overhead

Issue:

- ***What amount of overhead, or shared and common costs, should be factored into the prices?***

Party Positions:

Qwest: The rates are increased by a factor in the range of 13% to account for Qwest's shared and common costs (overhead).

AT&T's overhead factor is based on a ratio of overhead expenses to revenue that includes access charges that were passed directly to local exchange carriers and, therefore, are not generated by AT&T's network. As a result, the revenue is not properly attributable to AT&T in the calculation of overhead. The overhead factor used within the HAI Model should be increased to 13%, reflecting Qwest's average embedded overhead expenses over the last 5 years.

Joint Intervenors: The HAI Model uses an overhead rate of 10.4%, based on AT&T's overhead for 1994. Qwest inappropriately suggests that its actual overhead should be used in a cost model estimating the expenses going forward as an efficient provider.

Sprint: Inclusion of reasonably allocated common costs is appropriate; however, Qwest's overhead rates are unreasonably high. TELRIC allows only the recovery of the shared and common costs that increase as a result of offering a specific element. Sprint Nevada uses a factor of 10.4% for recovery of shared and common costs.

1. Conclusion

A forward-looking overhead figure is required; 10.4% is a reasonable figure.

2. Discussion

We agree with the Joint Intervenors that Qwest's proposal to use 13% as the overhead factor overstates the amount of costs that should be included as the overhead of the TELRIC carrier. Based upon the presented record, we believe that the

HAI default value of 10.4% is reasonable and should be used in the cost models

C. Network Operations Factors

Issue:

- ***What amount of general network operations expenses should be factored into the prices; are any general reductions applicable?***

Party Positions:

Qwest: Network Operations expenses include the expenses associated with providing network administration, testing, plant operations, administration, and engineering. Qwest's network operations expenses in Colorado declined between 1995 and 1997 but have remained relatively steady since then. Because the HAI Model starts with 2000 data it already accounts for cost reductions achieved since 1995. An additional 50% reduction is arbitrary and will result in a reduction in service.

Joint Intervenors: HAI Model assumes that network operations expenses will fall by 50% in a forward-looking TELRIC world. The Commission reduced network operations expenses on a forward-looking basis in the previous cost docket. The assumption that Qwest will achieve no reduction in network operations expense on a forward-looking basis is wrong. The costs associated with marketing, product management and sales, and research and development costs are all purely retail. No recovery for these network operations should be allowed

1. Conclusion

The network operations expenses as used in the Qwest model are acceptable; no support exists for an additional reduction. These expenses will be adjusted by the adopted productivity and inflation factors.

2. Discussion

We do not agree with the Joint Intervenors that a TELRIC carrier's Network Operations Expenses would be 50% less than the cost used by Qwest. We do not believe that the Joint Intervenors have adequately supported the HAI Model's default deflator of 50%. However, we do agree that there should be some degree of recognition that the utilization of forward-looking technologies will likely reduce future Network Operations Expense. Therefore, we will adjust this expense by the net of the productivity/inflation factor of 4% discussed *infra*.

D. General Support

Issue:

- ***Should any reduction to Qwest's general support expenses be made?***

Party Positions:

Qwest: General support expenses relate to the cost of furniture, office equipment, general-purpose computers, motor vehicles, etc. The Joint Intervenors do not justify a 50% reduction in general expenses.

Joint Intervenors: The HAI Model reduces the general support costs by approximately 50%.

1. Conclusion

Qwest's general support expenses are acceptable; no support exists for an additional reduction. These expenses

will be adjusted by the adopted productivity and inflation factors.

2. Discussion

a. Qwest's general support expenses were proven with credible record evidence. These are legitimate expenses that properly belong in cost modeling.

b. The HAI Model's 50% reduction to general support expenses is not justifiable as a forward-looking assumption.

c. These expenses will be reduced by the gross 4% net productivity and inflation factor discussed *infra*.

E. Labor rates

Issue:

- ***Should labor rates from the most recent Communications Workers of America (CWA) contract be used?***

Party Positions:

Qwest: Using rates from the CWA contract is not possible because the contract contains weekly wages paid by employee titles but are not specific to account and cannot be used to develop the cost of performing a total function.

Staff: Cost studies should be re-run using current labor rates from the CWA contract. Qwest's proposal is acceptable if more current actual book numbers are used as a starting point, although this is not an ideal solution.

1. Conclusion

The labor rates used in Qwest's study are acceptable. These expenses will be adjusted by the adopted productivity/inflation factors.

2. Discussion

a. Qwest's study of labor rates uses reasonable forward-looking figures when offset by the productivity and inflation offset. We adopt the Qwest figures.

b. We reject Staff's proposal. It represents a significant amount of additional analysis for minimal gain.

F. Net Productivity

1. Qwest's TELRIC cost studies reflect 1999 expenses that have been adjusted forward to 2001 to account for inflation and productivity. Consequently, inflation and productivity are two basic factors that drive Qwest's cost estimates. Conceptually, inflation measures the average increase in Qwest's input prices.[15] Inflation causes Qwest's costs to rise. Productivity is a relationship between input and output. Productivity increases mean more output per unit of input, causing decreases in the costs per unit of output measured in real terms. Productivity increases cause Qwest's costs to fall.

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[15] Inflationary driven cost increases are theoretically outside of the company's control. Inflation is measured with price indexes that estimate the average change in price for a group of goods and services. Price changes are weighted by the quantity purchased.

Inflation and productivity changes are expressed in annual percentage changes. Net productivity is derived by subtracting the productivity change from the inflation change. If the productivity increase is greater than inflation, net productivity is a negative number resulting in an overall decline in costs.[16]

2. Staff, Joint Intervenors, WorldCom, Covad and the OCC all allege that the overall costs estimated by Qwest's models are too high in part because Qwest's net productivity adjustment is too small. Arithmetically, such an effect is a function of overstating inflation or understating productivity, or some combination of the two. Productivity increases can arise in many ways including technological change, improved management processes, and a smaller, better trained and equipped labor force. The parties also discussed other potential sources of productivity increases for Qwest including labor force reductions, equipment manufacturer price reductions, interest rate reductions and merger savings.[17] The record presents the Commission with a range of net productivity estimates based on differing positions with respect to the proper productivity,

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[16] For example, if inflation increases by 2% and productivity increases by 4%, the net productivity adjustment is a negative 2%. The net change in costs is a negative 2%. Overall, costs have declined by 2%.

[17] Merger savings refer to the economies achieved as a result of the June 30, 2000 merger of U S WEST and Qwest.

inflation and merger related adjustments.

3. In this section of the Order, the Commission takes up two central issues with respect to the net productivity adjustment. One, has Qwest applied the proper net productivity adjustment for the purposes of bringing its 1999 expenses forward to 2001? Two, should the costs computed for 2001 be allowed to move forward in time without further adjustments?

PARTY POSITIONS

Qwest:

A 5% annual productivity adjustment should be used for the purposes of bringing the 1999 expenses forward to 2001. Compounding such an adjustment over the two-year period results in a total downward adjustment to Qwest's 1999 expenses of approximately 10.25%. Qwest supports a 4.2% annual inflation adjustment. Compounding this adjustment for two years results in an approximately 8.75% upward adjustment to Qwest's 1999 expenses. The combination of these two effects results in a net productivity adjustment of a negative 1.5%. Consequently, Qwest proposes to reduce its 1999 expenses by about 1.5% in bringing them forward to 2001.

A zero adjustment for merger savings is appropriate. Any additional productivity adjustment to account for merger savings would be a duplication of productivity gains already factored in by bringing the 1999 expenses forward to 2001. In particular, the OCC's recommended merger savings adjustment is unnecessary because Qwest's cost studies already include a productivity offset which is more than sufficient to encompass the one time merger savings adjustment proposed by the OCC.

Joint Intervenors: To account for merger-related savings, Qwest's 5% annual expense cost productivity adjustment should be increased to 6.85% annually. This proposed adjustment is based on Qwest's projected operating expense savings from the merger of between $4.3 billion and $4.5 billion over the period 2000-2005. This amounted to an average annual savings of approximately $730 million. In 1999 Qwest's operating

expenses exclusive of depreciation, totaled $3.17 billion and U S WEST operating expenses totaled $7.48 billion. Thus, the average annual merger-related operating expense savings ($730 million) constitute approximately 6.85% of the total $10.65 billion ($7.48 billion plus $3.17 billion) combined annual pre-merger operating expenses.

Qwest's costs are expected to fall over time due to increases in productivity. The FCC, under its price cap regulation of Qwest and other large local carriers, has recognized that LECs have become more productive over time. The FCC used a productivity factor, called the X-factor, to adjust the prices of baskets of access services offered by incumbent carriers such as Qwest. The most recent productivity factor adopted by the FCC was 6.5% annually. This would result in total productivity gains of 28.6% since the previous order in Docket 331T, which established the current UNE rates in Colorado. Adjusting this for inflation (approximately 2.5% per year) as was done under the FCC's price cap regulation, the net productivity gains would be 4% per year or 17% compounded over the last four years. While these productivity measures were part of the interstate access regulatory mechanism, the productivity measures relate to many items important in this docket, including switching, transport and interconnection. Moreover, the X-factor was used by the FCC to deal with LEC recovery of the interstate portion of the loop. Some of these gains in productivity could be seen in a review of Qwest's ARMIS data. According to ARMIS data, network operations expenses across Qwest's region fell by about 30% per line from 1996 to 2,000. Qwest's network expense fell by 8%. Network service expense decreased by almost 30% and variable overhead accounts fell by 7% despite a 60% increase in legal and external relations expenses.

In addition, Qwest had produced estimates of its overall merger efficiencies including its First Quarter Earnings Report wherein Qwest cited its increased improvement in productivity post merger, "Since the acquisition of U S WEST, revenue per employee increased from $249,000 to $310,000, a 24 percent increase in productivity." Qwest's costs and resulting UNE prices should reflect the results of the efficiencies gained and lower unit costs related to the merger.

The combination of changes in costs due to line growth, sale of exchanges, productivity, and increased efficiencies due to the merger could result in a reduction in the Commission's

estimated range for the appropriate loop costs of up to 40%. The cost for other UNEs should also decrease significantly.

OCC: To account for merger-related savings the Commission should reduce Qwest's TELRIC cost studies for each UNE by 7.49%. If this adjustment is not adopted, Qwest costs and resulting rates will be overstated.

Qwest's cost studies fail to account for the cost savings claimed by U S WEST and Qwest in support of their recent merger. The Company's cost studies reflect 1999 expenses that have been adjusted forward to 2001 by net productivity. The merger was finalized in June 2000, thus no merger-related adjustments have been made to the Qwest cost studies. In support of its merger, Qwest company witnesses testified the merged company would realize $4 billion in net revenue synergies and another $4.3 billion in net operating expense synergies over a five year period. Although these figures were estimates of expected savings, they were figures put before this and other commissions in support of the merger and were relied on by the Colorado Commission in approving the merger. Specifically, in Commission Decision C00-0041 in Docket No. 99A-407T, the Commission approved the merger and found that producer welfare gains would be achieved through various synergies resulting from combining the resources of the two companies, including discounts achieved from the combined purchasing power as well as expense savings.

The Company's 5% productivity factor will not and is not intended to capture merger-related benefits. Productivity factors are compounded annually and intended to capture recurring improvements in industry efficiencies. Given the fact that TELRIC uses forward-looking, least-cost technologies, the productivity factor adjustment would have been necessary even in the absence of the merger. The merger adjustment recommended by the OCC is a one-time adjustment specifically designed to capture the full impact of one-time, company-specific changes caused by the corporate merger. Furthermore, Qwest's productivity adjustment is applied only to the expense component (the "Expense Module") of its UNE cost determination; it does not affect vendor prices or any claimed investment-related UNE costs.

As to claims that the OCC's adjustment is inappropriate because it relies on cost savings estimates compiled in the merger case using a revenue requirement method, this is a

distinction without merit as the cost elements reflected in a revenue requirement determination are the same elements found in a UNE cost determination. With respect to the OCC's use of nominal dollar cost savings estimates and Qwest's suggestion that the Company's savings estimates be discounted at the annual rate of 10.3%, this is both inappropriate and a questionable refinement of the OCC's recommendation.

Staff: TELRIC studies must include only the best available switching, transmission media, labor and administrative practices as part of its forward look. Qwest has included processes that are not current or near future best, *e.g.*, analog electronic switching and circuit equipment should not appear in TELRIC, yet Qwest uses them. The productivity offset should start with the FCC average and move upward to reflect merger and other known savings. Without a test of reasonableness of compensation, inclusion of all book labor costs cannot be a forward look, as Qwest proposes.

The Commission should adopt a 6.5% productivity adjustment. The Commission should adopt an inflation rate of zero for purposes of its interim rate proposal. For purposes of the interim rate proposal, the Commission should apply a 5% reduction in Qwest's rates to account for merger savings and an additional 2% reduction to account for merger related vendor discounts. For purposes of the interim rate proposal, a 13.5% net productivity adjustment to Qwest's proposed prices should be applied.[18]

The method Qwest used to determine its productivity offset is completely indefensible. It does nothing to capture the circumstances of Qwest's immediate past or, more importantly, a forward-look at Qwest. Instead the productivity methods are gross averages from remote time periods and unrelated companies.[19]

Qwest has not demonstrated that its costs have increased over the adjustment period of 2000 and 2001. While it is true that the macroeconomic price index employed be Qwest experienced moderate increases over the period, it is inappropriate for Qwest to analogize from such a macroeconomic index because the quantities purchased in the macroeconomic index are unchanged

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[18] 13.5% = 6.5% productivity adjustment + 0% inflation adjustment + 5% merger adjustment + 2% vendor discount.

[19] Staff refers to Exhibit QQ at Confidential Exhibit CE-NEL-1 at 7. This is Audit Response 003 that sets out Qwest's productivity method.

but those purchased by Qwest are not. Qwest's costs have declined, and the likelihood of a recession and lower interest rates could result in deflation going forward.

Qwest's inflation and productivity calculation were unverifiable, despite Staff's audit questions. Therefore, Qwest's inflation and productivity calculations should not be relied upon.

A more realistic productivity offset would start with the 6.5% FCC average and move upward to reflect the merger and other known and measurable productivity-enhancing events such as declines in equipment manufacture's prices and the impacts of labor force reductions.

Opening markets to competition requires that wholesale customers receive the benefits of productivity gains going forward. A continuing adjustment of Qwest's wholesale prices through periodic adjustment, ongoing productivity/inflation adjustment offsets, or both, should be adopted.[20] The cost models should be run and verified on a yearly basis. The burden of proof of demonstrating that a departure from the formula is needed should rest with Qwest. Absent such a filing from Qwest, Qwest would file a bi-annual compliance letter incorporating the productivity and inflation adjustments.

1. Conclusion:

The Commission adopts a 4% net productivity adjustment for the purpose of bringing Qwest's 1999 expenses forward to 2001. The Commission will not adopt Staff's proposal to conduct a biennial review of net productivity or the cost of capital.

2. Discussion:

a. The Commission addresses two issues with

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[20] Staff also recommended the Commission conduct a biennial review of the cost of capital.

respect to the net productivity adjustment. One, has Qwest applied the proper net productivity adjustment for purposes of bringing 1999 expenses forward to 2001? Two, should the costs computed for 2001 be allowed to move forward in time without further adjustment?

b. The Commission finds that the record provides little appropriate support for the productivity and inflation adjustments. Qwest's methods fall short of capturing circumstances specific to Qwest and rely too heavily on industry productivity averages and macroeconomic price indexes. On the other hand, staff admitted its reliance on the FCC's 6.5% was not necessarily based on the factor itself or the FCC's particular formula but rather on Qwest's representations that they are extremely aggressive in terms of trying to reduce costs and maximize shareholder value. Staff's recommendation of a zero inflation adjustment in its interim price proposal is supported largely by references to going-forward events such as lower interest rates and the likelihood of a recession.

c. For purposes of bringing Qwest's 1999 expenses forward to 2001 the Commission has been presented a range of net productivity-inflation adjustments. Based on the evidence in the record the Commission finds that Qwest's net productivity-inflation adjustment of 1.5% is likely low. Specifically, the weight of the evidence and common sense

suggest the merger savings are real and have not been taken into account in Qwest's productivity adjustment. In addition, factoring in the effect of Qwest's recent labor force reductions and lower equipment prices supports a higher productivity number and a lower inflation adjustment. The Commission finds that a 4% net productivity adjustment should be applied in bringing Qwest's 1999 expenses forward to 2001.

d. With respect to the issue of whether the costs computed for 2001 should be allowed to move forward in time without further adjustment, the Commission agrees with the principle that competition requires wholesale customers to receive the benefits of net productivity gains as we move forward.[21] Staff's proposal that the Commission conduct a biennial review of net productivity, and the cost of capital has merit as a method of reducing the need for full blown costing proceedings such as the instant docket. However, the Commission will not adopt staff's proposal at this time. As Staff pointed out, the wholesale prices we are setting here are permanent only until an interested party or the Commission on its own motion finds cause to revisit them. In addition, the Commission puts parties on notice that it intends to open a wholesale pricing

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[21] We also recognize Qwest is currently the monopoly provider of these wholesale services and therefore requires regulatory oversight to ensure wholesale customers share in productivity gains and other events that drive down wholesale costs.

rulemaking docket to discuss the Commission's options with respect to the general issue of the pricing of wholesale services.

VIII. RECURRING COSTS

A. Elements

1. Analog Loop

Issue:

- ***What is the appropriate recurring cost of the analog loop?***
- ***What, if any, is the appropriate charge to demultiplex loops if required?***

Party Positions:

Qwest: The unbundled loop rate from 331T should be maintained.

Qwest must assume a charge for equipment required to demultiplex loops carried on Integrated Digital Loop Carrier (IDLC) to a single analog loop at the central office. The price should be $1.60

AT&T: Qwest's current $20.65 Colorado statewide average unbundled loop rate is among the highest rates in Qwest's 14-state region (despite the fact that Colorado has one of the densest populations in Qwest's region). Qwest's expense structure on a per-line basis has decreased. Therefore, Qwest's current average price does not reflect Qwest's forward-looking costs.

A demultiplexing charge is never appropriate. Qwest has only 9% IDLC in its network; therefore, Qwest is trying to recover for costs that it does not in fact incur. In any event, on a forward-looking basis, it is efficient to assume that CLECs could purchase loops in a fully integrated DLC system which would be fed directly into the CLEC switch without the need

for grooming at the central office. At a minimum, the charge should be reduced to Qwest's new figure from the old amount.

a. Conclusion

(1) The interim unbundled loop rates for the three groups are: $8.76, $14.45, and $37.73.

(2) A demultiplex charge on a digital line is only appropriate where such service is needed; the $1.60 amount is acceptable.

b. Discussion

(1) Blind reliance upon the output of computer models has its perils. Recognizing that in this order only some of the more important input factors and variables have been discussed, the Commission will, after reviewing the output of the adjusted models, set for an interim period (*See De-averaging, infra.*) the recurring rates for UNE loops (2-Wire and 4-Wire Voice Grade non-loaded, Digital Capable Loops, and High Density Subscriber Line (HDSL) Loops) as more specifically set forth in Attachment A.

(2) Based upon the evidence presented, the Commission is convinced that the above rates include any and all multiplexing. However, the Commission will set a rate for multiplexing that is to be applied by Qwest only in those circumstances when such activity is actually performed.

2. High Capacity Loops

Issue:

- ***What is the appropriate recurring cost of a high capacity loop?***

Party Positions:

Qwest: The Commission should use the NAC Model to develop investment for high capacity loops. The NAC Model is a special LoopMod that only considers fiber loops. (Note: Qwest has agreed that the NAC Model should rely on current equipment prices.)

AT&T: A statewide average DS1 loop rate of $30.00 and DS3 statewide average rate of $300.00 should be adopted. The problems with Qwest's NAC Model include:

1. Qwest overstates the required investment by using LoopMod;

2. Qwest relied on contract prices from 1999, and fails to reflect known and substantial decreases in costs;

3. Qwest understated its fill factors;

4. Qwest has used embedded, historical information.

Conclusion

Based on the Commission ordered inputs, the appropriate high capacity loop rates are contained in Attachment A.

3. Transport

Issue:

- ***What is the appropriate price for transport?***

Party Positions:

AT&T: It is also appropriate for the Commission to revisit the DS0, DS1 and DS3 transport rates established in 331T. The Joint Intervenors propose unbundled dedicated interoffice transport rates from $10.87 for DS0 Unbundled Dedicated Interoffice Transport (UDIT) for DS0 up to 8 miles long with a $.06 per mile charge to $1,458.89 as the fixed charge for an OC12 UDIT along with an additional per mile charge. Further decreases as a result of Qwest's reduced optical-digital equipment investment would result in 20% reductions.

Qwest's Transport Module does not identify the specific optical-digital equipment assumed by the model and prevents direct comparisons. Qwest's reliance on 1998 equipment prices, despite evidence of decreasing prices, fails to meet Qwest's burden to prove its prices are TELRIC. Qwest's Transport Module makes the same fill factor and TIF assumptions used in the NAC Model.

Based on the resolution of Volume 4A impasse issues, there is no basis for Qwest's discriminatory attempt to differentiate between transport elements in its rate structure. All transport should be provided using the rate structure Qwest has proposed for UDIT.

Finally, the Commission has not previously established a rate for shared transport. Qwest's proposed costs for shared transport are overstated. Qwest has used the same improper assumptions as outlined above.

a. Conclusion

No differentiation is appropriate between unbundled, dedicated, and Enhanced Extended Loop (EEL) transport rates. Based on Commission ordered inputs, the transport rates are contained in attached Attachment A.

b. Discussion

(1) Recognizing that in this order only some of the more important input factors and variables have been

discussed, the Commission will, after reviewing the output of the adjusted models set the recurring rates for transport (Dedicated Trunk Transport, UDIT, and EEL as more specifically set forth in Attachment A.

(2) Consistent with the previous recommendations of the Hearings Commissioner resolving impasse issues in Volume IV A, and based upon the evidence presented, the Commission is convinced that the three kinds of transport that Qwest identified are, in fact, so similar that for the purpose of cost recovery the Commission will determine and set one group of rates for all three transport varieties.

4. Switching

Issue:

- ***What is the proper switching cost?***

Party Position:

Qwest: Initial proposal of $13.98 recurring charge for the analog line side port should be updated with a new proposal of $5.33 per month in the top 50 Metropolitan Statistical Areas (MSAs). Qwest's proposals are market-based rates. Costs incurred in augmenting existing switches should be considered in developing costs. A comparison between Qwest's embedded switch investment and the HAI Model results demonstrate the HAI's insufficient investment amounts.

AT&T: Switching rates have declined since 331T. Furthermore, when cost of features is considered, the switching rates in Colorado are out of line. Parties have been unable to analyze Qwest's model because of a lack of information. The FCC stated that it was not appropriate in a forward-looking cost

model to include the cost of purchasing and installing switching equipment upgrades (*Inputs Order* ¶ 317). Switches do not constitute cost-effective, forward-looking technology. Therefore, a difference between Qwest's historical-based figures and the HAI forward-looking analysis should be expected.

a. Conclusion

The switching rate from 331T will remain in effect as TELRIC-compliant.

b. Discussion

The record of 99A-577T does not support a determination by the Commission of final local switching rates.

B. De-Averaging

Issue:

- ***How should the unbundled analog and high-capacity loop rates be de-averaged?***

Party Positions:

(Note: All the parties agree that the unbundled analog and high-capacity loops should be de-averaged on a wire center basis.)

Qwest: Qwest has developed three geographic zones and divided the lowest cost zone into two zones (total of four). De-averaged prices are based on the $18.00 unbundled loop rate from 331T. De-averaging should be done using results from LoopMod.

AT&T: LoopMod is flawed and should not be used for de-averaging. Zone 1 should not be divided into two zones.

OCC: The OCC has been unable to obtain enough information from Qwest to fully analyze its cost study. Qwest's plan may result in reduced competition in rural areas. If a CLEC must pay more for an unbundled loop in Zone 4 (rural) areas than Qwest receives in retail revenues in these same areas it will not be able to compete. The Commission should defer ruling on Qwest's de-averaging proposal until the parties have a full opportunity to analyze the proposal.

1. Conclusion

A statewide grouping of wire centers and related wholesale prices for the purpose of de-averaging will be adopted. However, the parties are instructed to file with the Commission in Phase II a plan for establishing high cost fund zones within each wire center.

2. Discussion

a. The proposed de-averaging plans do not mesh well with the federal or Colorado high cost mechanism de-averaging. The high cost mechanism is developed to provide "targeted" support to those areas that have high cost loops. The targeting is done through zones within each wire center that approximately represent the actual cost of the loop within a wire center.[22] Loops in an urban area of a wire center are less costly than loops in a rural area. Therefore, zones are created with different levels of high cost support. The proposed de-averaging plan places wire centers into groups, and does away

[22] The FCC requires disaggregations within a wire center for the purposes of high cost support. FCC 01-157; CCB 96-45 (May 23, 2001)

with the previous zones used to determine the level of high cost support.

b. The problem is that loops are cheaper within the urban areas, regardless of how small, even within the outer "groups" of wire centers. For instance, a loop in downtown Denver is approximately as inexpensive as a loop in downtown La Junta, even though the La Junta wire center could be a group three wire center, whereas the Denver wire center would fall within group one. The consequence of this dynamic is a distinct arbitrage opportunity, in which a provider could resell only urban loops in outer wire center groups and collect the large high cost fund subsidy for, in effect, providing a retail billing service.

c. The Commission will adopt the parties' wire center de-averaging plan. However, in order to prevent the arbitrage risk discussed above, the parties are required to file a wire center disaggregation plan of at least two zones per wire center, for purposes of high cost support in Phase II of this proceeding.

IX. NON-RECURRING COSTS

A. Manual Procedures

Issue:

- ***Is Qwest allowed to recover non-recurring costs for manual procedures after an order has been submitted?***

Party Positions:

Qwest: Once an order has been submitted, manual intervention will be required. Manual procedures will be required for designing the unbundled loop product, for providing cross-connects, and for revising Qwest's records and notifying customers of provisioning completion.

Joint Intervenors: Many of Qwest's assumed manual procedures would be accomplished electronically by forward-looking systems. Qwest's assumptions lack evidence and are apparently based on historic data. As a result, Qwest has proposed non-recurring charges for installing unbundled loops that substantially exceed the charges by Qwest to its own retail customers. The Joint Intervenors' cost study assumes that plant will be dedicated to a premises and left in place after the end-user service has been deactivated, suspended or terminated. The result is no requirement for substantial manual work when a new customer seeks to activate service at a premise formerly served by Qwest.

1. Conclusion

Qwest is entitled to recover its non-recurring costs for the manual procedures necessary to provide unbundled services. The Commission will set non-recurring rates based upon the cost studies submitted by Qwest, after adjusting the inputs consistent with the above determinations regarding inputs, expense factors, capital costs, and inflation/productivity multipliers.

2. Discussion

Rates for non-recurring activities are specifically set forth in Attachment A. Qwest has demonstrated that these costs will be incurred in a forward-looking environment, and thus they are properly recovered non-recurring

costs. These rates are, like all others, adjusted with Commission-specified inputs.

B. Loop Conditioning

Issue:

- ***Can Qwest recover a non-recurring loop conditioning cost in a TELRIC cost study?***

Party Positions:

Qwest: The U.S. District Court for the District of Colorado has determined that the FCC's *Third Report and Order* mandates that this Commission permit Qwest cost recovery for loop conditioning. Qwest incurs costs from loop conditioning and must be compensated for them. Loop conditioning charges are $85.00 for first splice location and $50.00 for each additional location.

Joint Intervenors: In a forward-looking network, there is never a basis for a loop conditioning charge. Qwest cannot charge to bring its own network up to standards required to provide advanced services. In addition, these costs may be recovered in recurring rates, resulting in potential double recovery.

1. Conclusion

Loop conditioning costs are properly recovered by Qwest.

2. Discussion

The Commission agrees that in a forward-looking "hypothetical" network, load coils and bridge taps should not normally exist on loops of lengths less than 18 thousand feet. However, the FCC has stated that an ILEC has the right to

recover costs associated with conditioning existing loops. When a CLEC seeks to provide digital loop functionality, such as DSL, using a loop that has a load coil or excessively long bridge taps, the ILEC must condition the loop to permit the transmission of digital signals. The requesting CLEC must bear the cost of compensating the ILEC for such conditioning.[23] Rates for non-recurring Cable Unloading and Bridge tap removal activities are specifically set forth in Attachment A.

C. Field Verification

Issue:

- ***What, if any, is the appropriate level of recovery for field verification?***

Party Positions:

Qwest: Qwest should be allowed to recover the costs of field verification for conduit occupancy.

AT&T: No field verification for conduit occupancy should be necessary. In any event, CLECs should not be responsible for paying Qwest to verify its own records. Even if the charges stand, it should require no more than two hours per manhole, and the charges should be limited to those manholes for which field verifications are in fact necessary.

1. Conclusion

A field verification charge is appropriate; however, Qwest's costs are overstated and will be capped to a limit of two hours per manhole.

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[23] *First Report and Order*, ¶ 682.

2. Discussion

The record sufficiently substantiates the cost of this activity. Qwest is entitled to recover at least some of these costs. However, AT&T makes a compelling case that these field verification costs should be capped at two hours per manhole.

D. Non-Recurring Costs via Recurring Charges

Issue:

- ***Should any non-recurring costs be deferred, to be collected through recurring charges?***

Party Positions:

Qwest: The Commission should reject the Joint Intervenors' request that Qwest recover non-recurring costs through recurring charges. Recovery of non-recurring costs via recurring charges presents a significant uncollectable risk to Qwest. Furthermore, a CLEC would be effectively allowed to avoid the risk that a facilities-based provider would face if a customer walked away. Of the 94 collocation cancellations in Colorado, none of the collocation facilities has been assumed by another competitor. The FCC stated that " . . . requiring the full cost of the equipment up-front is reasonable, LECs should not be forced to underwrite the risk of investing in equipment dedicated to the interconnector's use, regardless of whether the equipment is reusable."

Joint Intervenors:

The Commission should minimize recovery of non-recurring charges by folding them into monthly recurring charges. The FCC has stated that state commissions may require an ILEC to recover non-recurring costs through recurring charges to reduce barriers to entry for competing local carriers.

Furthermore, Qwest has failed to consistently separate investments recovered in recurring charges (shared or reused) from those recovered in non-recurring charges (dedicated to a specific collocator). Full capital recovery need not occur on a case-by-case basis, but rather only average out in the long run to full recovery. Qwest's position in effect guarantees recovery of embedded costs of Qwest.

Qwest's proposed nonrecurring charges for collocation result in complete recovery each and every time an entrant begins to use a cage. To minimize the dispute over uncertainty associated with a cage's utilization over time, such costs should be recovered over a period of five years. All other recurring charges should be recovered over time (as long as the space is being utilized by a CLEC).

1. Conclusion

Non-recurring costs should not be recovered through recurring charges, absent a contractual relationship binding the parties and ensuring recovery of the non-recurring costs.

2. Discussion

a. Qwest is entitled to recover non-recurring costs through non-recurring charges. Prices in the SGAT are predicated on what in essence amounts to a month-to-month leasehold by CLECs. Because of this month-to-month tenancy, there is no opportunity to amortize the fixed costs over the life of a longer leasehold. For instance, a term and price could properly be developed for a longer leasehold over the network element. This longer term lease could conceivably,

then, also amortize over its duration the non-recurring costs associated with the element.[24]

b. However, with this SGAT pricing, we are called on to set only one default term for a given network element. That term is premised on a month-to-month lease. Hence, Qwest gets to recover its non-recurring costs through a non-recurring charge. Of course, a given CLEC could negotiate, or eventually demand arbitration with Qwest to get the non-recurring cost factored over the life of a longer term lease, but that has not happened.

E. Reusability

Issue:

- ***Should a reusability test determine when non-recurring costs should be charged on a recurring basis (if reusable charge on a recurring basis, if not reusable charge on a non-recurring basis)***

Party Positions:

Qwest: The Joint Intervenors' reusability test is unrealistic. Qwest recovers one-time costs on a non-recurring basis to assure complete recovery. Occupancy time cannot be estimated and Qwest cannot establish any minimum lease duration. Qwest allows for a credit to the departing collocator for facilities that are reused.

A "reusability test" would require Qwest to finance one-time cost events just because the facility can potentially be re-used. The test's assumptions are flawed: that a CLEC will occupy the facility for its entire life; or that another CLEC

[24] Also properly included would be a risk of lost premium to Qwest for the possibility that the CLEC breached the lease.

will immediately re-lease the facility in the event of a departure.

Joint Intervenors: Qwest should adopt a reusability test to determine when one time costs should be charged on a recurring basis. If the facility to be serviced can be reused, charge it on a recurring basis, spreading the costs over the life of the facility.

1. Conclusion

A reusability test to determine whether non-recurring costs should be charged on a recurring basis is inappropriate.

2. Discussion

a. The evidence in this record does not suggest that the actual amount of re-use of collocation space and equipment is significant enough for the Commission to order that Qwest perform a reusability test and adjust its charges accordingly. We find that there is no obligation by Qwest to shoulder the risk associated with preparing and providing collocation space and subsequently have a collocator prematurely relinquish its obligations, prior to Qwest recovering its costs of furnishing the arrangement.

b. We do recognize that certain parties in this docket view the proposed non-recurring charges as excessive and a possible impediment to market entry by CLECs. With this in mind, we advise the parties of their ability to negotiate options for collocators that would allow a six and 12-month

payment option of non-recurring charges. As with other non-recurring charges, these options should appropriately include a risk premium for the option of term payments.

F. *Bona Fide* Request

Issue:

- ***What is the appropriate quote preparation fee for a bona fide request, as defined in the 198T docket?***

1. Conclusion

An appropriate quote preparation fee for a *bona fide* request is $1,055.50.

2. Discussion

a. By its very nature, a *bona fide* request involves something that has never been done before. As a result, a standard price is difficult to determine. Even ICB pricing is insufficient here because the cost at issue is the quote preparation fee, which requires costs to come up with a price even on an ICB basis. Therefore, some level of cost must be established. A zero rate is unacceptable, as it would encourage frivolous requests, resulting in uncompensated costs to Qwest. However, the cost should not be so high as to be prohibitive of requests for quotes for *bona fide* requests.

b. The Commission determines that exactly one-half of the standard quote preparation fee is appropriate for the *bona fide* request quote preparation fee. In theory, both

compensate Qwest only for the expenses of administering a quote. Therefore, basing one cost on the other is not without merit. However, as the *bona fide* request process contains more uncertainty in the pricing of the service, which is done on an ICB basis, it is preferable to have a smaller QPF to encourage the exploration of new services. In other words, companies have some idea what quote they will receive when asking for a collocation. As a result they can better determine whether they want to risk the difference between the actual administration cost of the quote, if any, in the event that the QPF is not later applied to the collocation cost. In contrast, with the *bona fide* request process, parties are less able to assess the potential risk of loss. Any inaccuracies in the price of the administration of the quote are accounted for when applied against the service price.

c. The Bona Fide Request (BFR) preparation fee would be credited against any further amount for which the CLEC may be liable to Qwest if the CLEC determines it wishes to go forward with the request.

X. COLLOCATION

Collocation as required by the Act has been discussed and briefed in detail within the workshops involving the SGAT in Docket 198T. The specific terms and conditions associated with collocation more appropriately should have been included and

resolved in the SGAT workshops and the 198T process. We will decide on the specific inputs to be used in Qwest's cost study involving collocation, and we will address the Joint Intervenors' issue related to perceived associated excessive non-recurring charges. Covad presents its concern involving splitter location in a collocation arrangement that we will also address.

A. Basis of Collocation Costs

Issue:

- ***Is the basis of Qwest's proposed collocation costs appropriate and/or sufficient?***

Party Positions:

Qwest: Qwest's collocation cost study is based on 41 actual collocation jobs. Although the collocation jobs include cageless collocations and were performed in states other than Colorado, the data is still valid.

WorldCom: Qwest relies on 41 cageless collocation jobs to justify its caged collocation costs. The 41 jobs include data from outside Colorado. The problems include: the 41 jobs are not statistically random; Qwest has completed approximately 500 caged and cageless collocation jobs in Colorado that could be used for the cost study; and Qwest cannot justify reliance on the 41 jobs.

1. Conclusion

Qwest's study, with adjustments, has a sufficient basis to determine the collocation costs in Colorado.

2. Discussion

Although the Joint Intervenors present valid concerns regarding the basis of Qwest's collocation study, they do not provide a sufficient alternative on which to initially base collocation costs in the present proceeding. Therefore, the Commission will use the Qwest collocation cost study as the starting point for determining the appropriate TELRIC-compliant collocation rates.

B. Quote Preparation Fee (QPF)

Issue:

- ***Should different quote preparation fees exist for different types of collocations, e.g., augments?***

Party Positions:

Qwest: Qwest agreed to the $2,111.27 QPF as established in 331T. This QPF is appropriate for all collocation arrangements.

WorldCom: Qwest does not provide a QPF for collocation augments (additions/modifications to existing collocation), which require less work. Qwest should provide a QPF for collocation augments that is no more than one fourth of the standard QPF.

1. Conclusion:

Qwest's single quote preparation fee, as modified, is accepted.

2. Discussion

The record is insufficient to create a differentiated quote preparation fee. The Joint Intervenors

have failed to explicitly define a collocation augment or justify a three-quarter reduction of the standard quote preparation fee for all "augments." Furthermore, given that the QPF eventually is deducted from the construction costs, the differences between caged, cageless and virtual collocation construction costs are sufficient to differentiate between those various forms of collocation. The differences in cost need not be accounted for in the QPF.

C. Cable Length

Note: The issue as to where a splitter is to be placed is a non-price term, and dealt with in the 198T docket. *See Volume II A Impasse Issue Resolution Order*, Decision No. R01-848. Arguments regarding non-price, 198T issues are not addressed here. The only issues appropriate for this docket relate to the cost of the splitter placement.

Issue:

- ***What cable length assumptions are appropriate for costing collocation?***

Party Positions:

Qwest: The only legitimate basis for determining the cable lengths and associated costs is from actual collocation jobs. Qwest's engineering cost per job is based on the actual costs Qwest has incurred. The average cable length is appropriately 100 feet.

Joint Intervenors: Qwest's costs for mounting the splitter are excessive. Qwest should estimate the cable lengths that would be necessary in a newly constructed central office. Qwest should use power cabling averages from RS Means Construction Cost Data Book (RS Means) and Cobra Wire & Cable.

Covad: The cable and racking length assumptions made by Qwest are overstated and do not reflect an efficient network design

using actual collocation practices. Qwest's assumed racking footage is based on general BVAP estimates and not on actual measured lengths. The prices charged to CLECs for cross-connects and tie cable should reflect the most efficient, least-cost configuration possible. The splitter options proposed by Qwest do not comport with the FCC's mandate that the least-cost network configuration be used.

1. Conclusion & Discussion

As the cost studies (that were supplied in this docket (and that were exercised at the Commission's Technical Conference) demonstrated, the length of cables varied depending upon which of four scenarios were being modeled. The lengths of cable and splitter location option were uniquely captured in the various model scenarios. Therefore, the Commission will set different rates for different splitter location and cable lengths. These rates are contained in Attachment A

D. Installation Times

Issue:

- ***What are the appropriate installation times to be factored into the collocation cost?***

Party Positions:

WorldCom: Qwest's invoices used to support its installation times lack sufficient detail; it is not clear whether the activities are performed efficiently or if any activities also benefit Qwest.

Covad: The engineering time assumptions and related pricing proposed by Qwest are not based on credible evidence or appropriate allocations. Qwest does not adjust its engineering estimates for different types of splitter

collocation, even though in reality the times are significantly different. Qwest also used the engineering times for new collocation jobs as for existing collocation augmentation. In addition, Qwest did not attribute direct installation-related engineering costs to each splitter. The costs should be allocated among all the splitters in a rack, with the assumption of 12 splitters per rack.

1. Conclusion

The installation times utilized in Qwest's collocation cost study are generally appropriate but cost factors were adjusted slightly downward to account for the lower cost of capital and the higher net productivity.

2. Discussion

Consistent with our discussion of the net productivity- inflation adjustment in this order a net of 4% will be used to adjust the work times and probabilities. Otherwise, the Qwest inputs portray reasonable forward-looking work time assumptions.

E. Total Demand

Issue:

- ***What is the appropriate level of demand for collocation as it relates to the number of collocators per central office and the number of collocators that share entrance facilities?***

Party Positions:

Qwest: The Qwest model assumes a large percentage of shared entrance facilities. For example, Qwest conservatively estimates that CLECs will use a dedicated manhole only 10% of the time. Qwest also assumes that, on average, three

collocators will share entrance facilities. Qwest's assumption is based on actual sharing averages in Colorado.

WorldCom:

Qwest fails to consider total demand by ignoring or understating its use of facilities and by understating the number of CLEC collocators per central office. There are already more collocators per central office in Colorado than Qwest indicated in its cost study. Qwest assumes 100% of all caged collocation and 50% of all cageless collocation will require major or new cable racking and aerial support despite the fact that Qwest and CLECs share virtually all cable racking in a central office. For caged collocation the percentage of jobs requiring major cable racking and aerial support should be set at 10%, and the percentage of jobs requiring any cable racking and aerial support should be set at 20%.

Qwest's proposed cost of the entrance facility is not TELRIC. Qwest assumes that it will construct a new enclosure dedicated to CLEC use and that entrance facilities will be shared among only three collocating CLECs, while in Colorado an average of nine CLECs are collocated per central office. An assumption of, at most, 5% of manholes should be used.

Sprint: Qwest assumes that there is an average of three collocators per central office. Qwest should increase the number of collocators in its central office to reflect projected demand.

1. Conclusion

Qwest's level of demand for collocation is adopted.

2. Discussion

Qwest's assumptions based on actual collocation demand in Colorado are the best evidence presented as to the likely forward-looking costs. The amount of sharing for

entrance facilities is a reasonable forward-looking assumption. In contrast, WorldCom's and Sprint's arguments about the level of demand and shared entrance facilities are unconvincing, and are based on inflated estimates.

F. Elements

1. Space Conditioning

Issue:

- ***What is the appropriate space conditioning charge?***

Party Positions:

Qwest: Qwest's engineering costs are based on actual data; there is no evidence to support any reduction.

WorldCom: A forward-looking approach assumes a central office ready for the placement of collocation equipment, costs will be recovered via the space rental charge.

Sprint: Given the range of the engineering cost sample the proposed rates for smaller collocation arrangements would be reduced if Qwest incorporates arrangement-specific engineering costs into its space calculation. The Commission should require Qwest to recalculate its space conditioning charge using engineering costs specific to each type of collocation arrangement.

a. Conclusion

A space conditioning charge is not appropriate. These costs should already be recovered in the space rental fee.

b. Discussion

We reject this rate element because these costs should already be recovered in the space rental fee.

2. Engineering Costs

Issue:

- ***What are the appropriate engineering costs?***

Party Positions:

WorldCom: Qwest's engineering charges are overstated and poorly documented (*e.g.*, no specification of tasks performed). Qwest assumes caged and cageless collocation will be engineered one at a time, resulting in inefficiency. Qwest's engineering costs for physical caged and cageless space construction should be cut in half. Also, Qwest should provide a separate engineering charge for collocation augments that is one half of WorldCom's proposed engineering costs.

Qwest's engineering charges for line-sharing ($1,333) and CLEC interconnection ($1,689) are overstated. Collocators should not be forced to pay Qwest to verify the accuracy of its collocation area data. Qwest should not be allowed to charge more than 10 hours for these functions.

a. Conclusion

Qwest's current engineering costs are appropriate, subject to net productivity-inflation adjustments.

b. Discussion

Qwest carried its burden in proving properly recoverable engineering charges. The charges are adjusted by the net productivity-inflation factor and the Commission-prescribed cost of capital.

3. Floor Space Rental

Issue:

- ***What is the appropriate floor space rental cost per foot?***

Party Positions:

Qwest: For floor space rental, the charge should be $4.44 per square foot. Sprint's ILEC in Nevada charges about twice Qwest's proposed rates. Qwest's rates are reasonable.

WorldCom: Qwest is double recovering architectural fees, land costs, and site work and landscaping costs, because the RS Means Construction Cost Data Book used by Qwest includes some of these costs. Qwest's per square foot investment should be reduced by 10% to compensate.

a. Conclusion

A $4 per square foot floor space rental charge is appropriate.

b. Discussion

We agree with WorldCom that a slight downward adjustment in Qwest's floor space rental fee is warranted. The RS Means data, though not dispositive, convinces us that Qwest overstates the cost. We, therefore, adjust downward the space rental cost to $4 per square foot.

G. Construction

1. Heating Ventilation and Air Conditioning (HVAC) and Electrical

Issue:

- ***Should HVAC and electrical charges be included in the collocation space construction cost?***

Party Positions:

WorldCom: Qwest double counts HVAC and electrical costs by adding such costs to its standard space construction costs even though Qwest retains an "appropriate" amount of HVAC and electrical costs in the per-foot floor space rental cost. HVAC and electrical costs should not be permitted in Qwest's space construction cost.

a. Conclusion

HVAC and electrical should be included in the space rental fee. No additional HVAC and electrical charges should be included in the construction costs.

2. Fencing

Issue:

- ***What is the appropriate fencing charge***

Party Positions:

Qwest: The RS Means data, which was provided in response to discovery request ATT02-026, provides the cost of constructing generic facilities. These costs should not be used when information that is more specific to a unique application is available. The Qwest cage construction estimates are based upon a contractor pricing survey conducted for 13 offices in the Qwest region (including two quotes for the Denver area).

WorldCom: Qwest's cost for the fencing component of the standard space construction charge for caged collocation is overstated. Qwest's cage costs provided in ATTO2-026 (roughly one half of what Qwest used in its cost study) should be used in Qwest's cost study.

a. Conclusion

The Commission will make a 10% reduction to Qwest's proposed fencing charges.

b. Discussion

The Commission finds Qwest's estimate of fencing costs to be more reliable. However, we will reduce Qwest's proposed fencing charges by 10%. This reduction reflects a reasonable adjustment to account for cost reductions resulting from placing multiple adjacent cages. Adjacent cages would permit sharing cage walls and thereby reduce the per cage cost. Presumably adjacent cages have the potential to reduce cage walls per cage to three per cage thus resulting in a potential 25% reduction in fencing costs. However, multiple adjacent cages are unlikely in all circumstances.

3. Security

Issue:

- ***What is the appropriate charge for central office security?***

Party Positions:

Qwest: Qwest proposes two charges for identification cards and card readers. An ICB charge is proposed for yet unspecified central office security infrastructure.

WorldCom: Security costs must meet the FCC test; the amount charged should be borne on a *pro rata* basis, using square footage as a basis for allocation. Qwest should bear the majority of the security costs, as it is the primary beneficiary.

a. Conclusion

Qwest's proposed recurring charges for ID cards and card readers as modified by factor input changes are adopted. ICB pricing is appropriate for other security charges with proper cost support.

b. Discussion

(1) Qwest's security charges for ID cards and card readers are adopted.

(2) When and if Qwest introduces additional security measures, it will propose and justify its costs and prices in a filing to the Commission.

4. Regeneration

Issue:

- ***When required, what should be the price of regeneration?***

Party Positions:

WorldCom: FCC found that ILECs should not charge for regeneration, as it should not be necessary. This is particularly true on a forward-looking basis. Because Qwest is always responsible for placing the CLEC equipment, CLECs should never have to pay regeneration charges.

a. Conclusion

A channel regeneration charge may be necessary; the need for such a charge is theoretically possible as a result of the 198T determination on this issue. A charge will occur when regeneration is required using HAI Model outputs.

b. Discussion

(1) The Volume II A Impasse Issues Resolution Order, Decision No. R01-898, results in a situation in which channel regeneration charges are theoretically possible. Channel regeneration charges are appropriate when the CLEC's equipment is collocated in the optimum position within the central office, yet the cabling distance to that equipment is longer than the lengths specified by industry standards within which regeneration is necessary. Therefore, while from a practical matter regeneration will likely never be necessary, the Commission must adopt a charge in order to be consistent with the theoretical possibility of required regeneration as established in 198T.

(2) The channel regeneration charge is authorized and is contained in Attachment A. The HAI Model outputs are used to arrive at the channel regeneration charge.

H. ICB Pricing

Issue:

- ***Should the Commission allow any ICB pricing for collocation?***

Party Positions:

Qwest: In instances where Qwest has an insufficient basis for determining collocation pricing in an average amount ICB pricing is the only appropriate alternative.

WorldCom: ICB pricing is never appropriate. Average prices can be determined for any element of collocation in any circumstance. Qwest can use ICB to delay CLEC business plans. Furthermore, ICB provides Qwest with no incentive to pursue efficiencies and improve collocation implementation processes. The FCC has prohibited ICB pricing for collocation. See Second Report and Order (CC docket No. 93-162, June 13, 1997).

1. Conclusion

ICB pricing should be allowed only in rare situations.

2. Discussion

a. To the extent a price can be developed for a collocation situation at all within the variations inherent in the price-setting exercise in general and TELRIC in particular, that price should be developed. The intervenors' concerns regarding the ability to act anti-competitively using an unnecessary ICB price are not unfounded, and such potential should be avoided where possible.

b. The Commission finds that ICB pricing is inappropriate for security services. Any additional security items should be identified and spread across all entities that benefit, including Qwest, on a fair and reasonable basis.

c. In cases in which ICB pricing is appropriate Qwest must use the inputs as defined in this order. Competitive providers may challenge an ICB price utilizing the 198T escalation process.

I. Retroactive Adjustment

Issue:

- ***Should the Commission order a retroactive adjustment from existing interconnection agreements to the rate set in this Order?***

Party Positions:

Sprint: Any difference between non-recurring collocation rates ordered by the Commission and non-recurring collocation rates paid by collocators should be refunded to the collocators on a retroactive basis. Sprint's contracts with Qwest require the retroactive adjustment "...where required by the commission. . . ." Sprint requests that the Commission require the true up.

1. Conclusion

The Commission is not capable of ordering a retroactive adjustment.

2. Discussion:

The Commission has a specific procedural bar preventing it from ordering any retroactive adjustments to the

collocation rates under existing interconnection agreements. In any event, such adjustments are a matter of contract law and outside the scope of the Commission's general authority. Sprint's request for refunds appear to be an illegal retroactive rate adjustment. As such, we deny the request.

XI. OPERATOR SERVICES

A. Directory Assistance and Operator Services (DA/OS)

Issue:

- ***Whether Qwest's ICB pricing for customized routing is sufficient to preclude the requirement to unbundle DA/OS services at a TELRIC price (which would be set in this Order)?***

Party Positions:

Qwest: In the FCC *UNE Remand Order*, the FCC held that ILECs are not required to unbundle DA/OS except for limited circumstances where ILECs do not provide customized routing to allow requesting providers to route traffic to alternative providers. The FCC eliminated TELRIC pricing for DA/OS when customized routing is available. Qwest provides customized routing on an ICB basis. Therefore, the Commission should adopt Qwest's proposed market-based rates for DA/OS. The Commission has no jurisdiction to review and approve rates for information services and database elements.

WorldCom:

Qwest does not provide the necessary custom routing for a UNE-P entrant to direct their DA/OS services to an alternate provider. Customer routing on an ICB basis is not sufficient to ensure that the CLECs have the ability to direct their DA/OS services in a competitive manner. Qwest must provide customized routing consistent with the *UNE Remand Order*. To the extent customized routing charges are already included on a facilities or UNE-P basis, Qwest is over recovering.

Qwest's market based approach is discriminatory and violates § 251(b)(3), which obligates all carriers to provide nondiscriminatory access to DA/OS services. The Commission must require Qwest to provide a cost study on which to determine whether Qwest's current offering is nondiscriminatory. Qwest must provide DA/OS to CLECs at same the prices it provides the services to itself. Qwest can and should develop a customized routing price before receiving such a request.

1. Conclusion

The 331T rates will remain in effect until a standard priced customized routing offering is in place.

B. Directory Assistance Listing (DAL) Information

The DAL database is not a legitimate UNE, as the FCC has recognized. The Colorado Commission declines its authority to designate DAL information as a UNE. Therefore, there is no DAL pricing provision at issue here.

XII. LINE SHARING

Issue:

- ***What if any should be the recurring charge of HFPL?***

Introduction

1. Technology now allows the local loop to be shared between low-frequency voice transmission (traditional local service) and high frequency data transmission. At issue in this proceeding is the appropriate wholesale price for the HFPL. This is an important issue for many reasons. A positive price may result in additional revenues that could potentially be used to cover common loop costs resulting in the possibility that

retail services now supporting loop costs could be reduced in price.[25] Moreover, the wholesale price the Commission sets for HFPL will affect consumer and producer choices with respect to broadband services in general. For example, this occurs between the high frequency portion of the loop and cable or wireless systems capable of delivering high speed data transmission services. If the price for HFPL is set too low it could result in regulation inappropriately increasing reliance on this form of technology, and inappropriately discouraging the efficient deployment of cable and wireless technologies. This would result in a socially inefficient allocation of these resources and would have the effect of increasing the cost and price of broadband services. If the price is set too high it could result in too much reliance on cable and wireless systems, once again ultimately increasing the cost and price of broadband services.[26]

2. In the following discussion, the Commission takes up the issue of the proper recurring charge for HFPL.[27]

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[25] For example, charges for residential basic local exchange could be reduced.

[26] Society would be deploying the incorrect mix of resources for the acquisition of broadband services.

[27] The non-recurring charge for HFPL is in Attachment A. The inputs from which this charge is derived are discussed in the section on collocation, *supra*.

PARTY POSITIONS:

OCC: The OCC supports the adoption of a non-zero price (recurring charge) for the HFPL. According to OCC witness Copeland, even assuming the incremental cost of providing HFPL is zero, it does not necessarily follow that the efficient price of that service is zero. Mr. Copeland disagreed with witnesses for Sprint and Covad who argued that the price of the HFPL should be zero because line sharing does not create any incremental loop costs. Mr. Copeland testified that the simple economic truth is that if there is a positive demand for a good or service, it is not efficient to set the price at zero. According to Mr. Copeland, a positive price is consistent with TELRIC. On a forward-looking basis, we must acknowledge that both traditional voice service and high frequency data transmission service are provided on the local loop. As such, both services must contribute to cost recovery for the loop. The OCC contends that because the loop is a shared cost used by voice and advanced services, such as DSL, recovering the entire cost of the loop from voice services would violate Section 254(k) of the Act.

Mr. Copeland argued that the ability to share the local loop between multiple services at little or no incremental cost transforms the local loop into something economically equivalent to a "public good."[28] Mr. Copeland acknowledged that the local loop is not actually a public good, but he suggests that it does share one important characteristic with a public good: non-rival consumption. Specifically, the consumption of the low frequency portion of the loop does not reduce or diminish the amount of good available to be consumed on the high frequency portion of the loop. Mr. Copeland contends that there are established principles for allocating the cost of a "public good" so as to achieve the equivalent of a competitive outcome (*e.g.*, an efficient allocation of resources). He states that these principles suggest a rational and objective basis for allocating the cost of the local loop between shared services on the basis of relative

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[28] "Public good", in economics, is characterized by non-rivaling of consumption and difficulty of exclusion. The benefit criterion is one principle for spreading the cost of public goods to individual consumers. This principle is an attempt to mirror a competitive market wherein an individual pays a price for goods and services equal to the marginal benefits of consumption. Beneficiality is the guideline by which the OCC and Staff recommend the Commission determine what portion of loop costs should be borne by HFPL.

usage. Therefore, he recommends that relative usage be the principal criterion for evaluating the reasonableness of rates designed to allocate cost recovery between shared portions of the local loop. If the necessary usage data is not currently available, Mr. Copeland recommends that the Commission begin with a 50/50 allocation of cost responsibility between the two portions of the local loop.

According to the OCC, currently, 100% of the cost of the loop is being recovered through retail voice service rates. Therefore, if the Commission sets a non-zero price for the HFPL but fails to reallocate the costs of the loop among all services sharing the loop, Qwest will be over-recovering its costs. The OCC's recommendation to set a non-zero rate for the HFPL is contingent upon subsequent Commission action to adjust other rates based on changes in contribution to loop costs(*i.e.*, offsetting new HFPL recurring revenues with reductions in rates for other voice grade services to maintain the same overall revenue levels).

Staff: Staff also supports a positive recurring wholesale price for HFPL. However, Staff opposes Qwest's proposed $5 recurring charge at this time. According to Staff, Qwest's proposal is objectionable on at least two grounds: first, it will result in over-recovery of costs by Qwest; second, because Qwest does not impute any cost to itself for use of the HFPL when offering its own DSL service, it is unfair and improper.

Staff advocates a two-step approach to determine the wholesale price for HFPL. Upon completion of Phase 1 of this docket, HFPL should be available at a recurring charge of zero. Upon completion of the latter phase of this docket, a positive price for HFPL should be set. However, Staff recommends that the Commission not allow Qwest to charge that price until: one, loop cost recovery is reallocated among all services using that loop, including the HFPL; and two, Qwest submits, and the Commission approves, a proper HFPL imputation test analysis.

Staff witness Langland addressed the issue of the pricing of HFPL in both his Answer and Cross Answer Testimony. According to Dr. Langland, Staff's justification for a positive price relies upon the notion that many services are provided over the loop and all services, especially on a forward-looking basis, cause the cost. Dr. Langland claims that the cost of the loop is a shared cost which displays a "jointness" of production. He asks the Commission to consider the

alternative: every service which requires a loop (*e.g.*, toll, vertical services, local, etc.) would require a loop dedicated to that service. Therefore, the loop is deployed in order to provide all services. The sequence of providing services is not a consideration; and, no single service is the cost-causer with other services gaining access to the loop at only incremental cost.

Dr. Langland suggests that the parties be ordered to conduct detailed cost analysis of HFPL in order to set proper recurring and non-recurring charges, and to reallocate loop costs among all services using the loop. Furthermore, loop cost reallocation should be instituted on an ongoing basis, with adjustments at regular intervals to reflect absolute costs and relative quantities of the various services using the loop.

Qwest: Qwest recommends that we establish a wholesale price (recurring charge) of $5 for the HFPL. According to Qwest the Joint Intervenors' and Covad's request for a zero price conflicts with the Act's requirement of just and reasonable rates for UNEs and violates the FCC's pricing rules. Qwest contends that a fundamental underpinning of the FCC's pricing rules is that prices should replicate conditions in a competitive market. In a competitive market, there would be a positive price for the HFPL. In such a market a product in limited supply that has a positive demand also has a positive price. In a competitive market, a rational provider would not surrender its ability to use the high frequency spectrum on its loops without requiring compensation from competitors using the spectrum.

Qwest maintains that a price of $5 for the HFPL reflects a reasonable allocation of the common costs of the loop. The introduction of high-speed data transmission technology to the unbundled loop renders virtually all of the costs associated with the loop, joint and common, because of the presence of two dedicated connections from a single customer. Before, there was only one dedicated customer connection; that customer caused all the costs of the loop. The advent of DSL over the copper loop results in a second dedicated connection, leaving the costs of the loop common to both connections. The FCC's pricing rules require a "reasonable allocation" of these joint and common costs. There is no "correct" allocation of common costs. Instead, the allocation of these costs must pass a test of reasonableness measured against the goals of the Act and the objectives of the FCC's pricing rules. A positive rate reflects the FCC's clear intent to establish UNE

prices that simulate the competitive market, and is far more supportable than a price of zero. A rate of $5, based on an allocation of common costs between the two dedicated uses of the loop, is most consistent with a competitive market. This allocation preserves incentives for efficient investment, maintains pricing symmetry, and promotes competitive neutrality.

Qwest contends that CLEC assertions of a possible price squeeze are unfounded because Qwest's price of $29.95 for its retail DSL service ensures that there will not be a price squeeze. Qwest states that this price is at a level that exceeds the direct cost of service, plus an imputation of the proposed HFPL recurring charge.

COVAD: Covad urges the Commission to set the recurring wholesale price for the HFPL at zero. Covad claims this is a non-discriminatory price; this recognizes that there is no incremental loop cost associated with the HFPL; and it will result in a more level playing field, permitting real price and service competition - not monopoly power - to determine how xDSL services will be deployed to Colorado consumers. Covad contends that Qwest's proposed $5 price will artificially inflate the cost of xDSL services to consumers, will require those consumers to pay a second time for the copper loop already serving their premise, and will "feather the pockets" of Qwest with revenue gained from an essential network element that has no incremental cost to Qwest.

According to Covad, the Commission has been directed by the FCC to price UNEs using an incremental cost methodology. The FCC has also directed use of a TELRIC-like analysis to capture the true incremental cost of the HFPL. Qwest agrees, according to Covad, that its pricing approach for the HFPL is not an incremental cost approach. Instead, it is an allocation of common cost between the HFPL and the voice spectrum. Covad argues that because the Commission must price at incremental cost, and it is undisputed that there is no incremental cost to Qwest for providing HFPL to CLECs, the Commission should set the price of the HFPL to CLECs at zero.

Covad witness Gates addresses the issue of the pricing of HFPL in his Direct Testimony. According to Mr. Gates, the cost of providing HFPL does not reflect the traditional characteristics of shared costs. He claims that because HFPL can never be produced without the ILEC offering the voice services, the provision of voice services and HFPL does not result in shared costs. He testified that because the HFPL is

produced at zero cost and is offered, if and only if, the ILEC already offers voice services, it is inappropriate to allocate part of the cost of the loop to HFPL. Such an allocation process violates cost causation principles because loop costs are incurred when the customer orders voice services. Costs are not incurred when the customer orders HFPL through a CLEC. Thus, under cost causation principles, zero costs should be assigned to HFPL.

Mr. Gates argues that, given that Qwest does not incur any incremental costs by offering HFPL, Qwest's internal price for HFPL is zero. He suggests that if Qwest is allowed to charge any price to CLECs for HFPL other than zero, Qwest will be able to place its competitors in an anti-competitive price squeeze. Covad contends Qwest could predatorily price its DSL (MegaBit) service to pass any imputation test by one or two cents, effectively forcing CLECs to accept only cents above their direct costs while Qwest recovers those cents plus the fully imputed amount.

Sprint: According to Sprint, Qwest already receives the total revenues that the Commission has determined to be just and reasonable compensation for the total cost of providing the loop. Accordingly, a zero price for the HFPL is both cost-based and non-discriminatory. Sprint witness Mr. Wolahan contended that there are no incremental costs associated with line sharing because, by definition, the loop already exists before line sharing is possible. Therefore, line sharing does not create any additional loop costs. He maintains that a $5 charge would result in an over-recovery of loop costs. He recommends that Qwest should either adjust other rates to compensate for the over-recovery, or adjust the recurring charge to zero.

1. Conclusion

a. All parties, except for Covad and Sprint, agree that loop costs for shared lines are joint costs. The Commission also agrees with the principle that all telecommunication service provided over the loop displays jointness in production and should bear some portion of loop

costs.[29] We further note that the Commission's Costing and Pricing Rules, 4 CCR 723-30-4.2(a)(iv), require that all services which use the loop should contribute to its cost recovery .

b. We adopt a positive recurring price for the HFPL. As a matter of economic principle, a zero price is not efficient if there is a positive demand even if the incremental cost is zero. In circumstances where there is a positive demand, a competitive market would result in a positive price even if the incremental cost is zero. Clearly, there is a positive demand for the HFPL.

2. Discussion

a. A positive price is required to mirror the allocation of resources that a competitive market would produce. It provides the proper signals to producers who seek to deploy capital and labor to the delivery of broadband services.[30]

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[29] That is, many services are provided over the loop and no single service is the cost-causer especially on a forward-looking basis. In Commission Decision C97-88 (Docket No. 96S-257T), in response to voluminous testimony from many parties, we addressed this issue directly. In our discussion of our costing and pricing rules as they relate to the assignment of loop costs we took the opportunity to give guidance to the parties concerning the Commission's conceptual view of the loop network. On page 38 the Commission declared, "Loop costs are shared and common and should be covered by all services using the loop."

[30] According to economic theory, the proper price is one that accurately reflects all the costs and benefits of providing a specific good or service to society. In this case it signals producers regarding the proper allocation of their resources among the various methods of delivering these services, for example, as between cable, wireless, and the HFPL.

It also provides the proper information to consumers as they choose among alternative broadband technologies.

b. Further, as Qwest and other parties pointed out, a non-zero price is required to reflect a reasonable allocation of joint and common costs. The FCC's TELRIC pricing rules require a reasonable allocation of joint and common costs. *See* 47 C.F.R. subsections 51.505(a)and (c). Economic theory suggests that in a competitive market these joint and common costs would be allocated in response to consumer demand. OCC and Staff witnesses pointed out that ideally the Commission's decision would mirror this competitive outcome by allocating these costs using some measure of beneficiality such as relative use, actual penetration studies, or demand elasticities. The record in this docket does not provide such information to the Commission. Because of this, some parties have suggested that we not set a positive price at this time. We disagree. The record provided the Commission a range of prices for HFPL between zero and approximately $7.50.[31] The record also reflects a negotiated price for the HFPL of $4.89 from Qwest's Line

[31] Based on OCC witness Mr. Copeland's recommendation that in the absence of appropriate usage data the Commission should begin with a 50/50 allocation of cost responsibility between the two portions of the local loop. The price of residential service in the base rate area is approximately $15. Exhibit CC. Answer Testimony of Basil Copeland, p 9.

Sharing Agreement.[32] Some parties complained that this price was negotiated with Qwest under duress. However, we observe that this was a price agreed to under the negotiation/arbitration process established under § 252 of the Act. We find that this price falls within a zone of reasonableness measured against the goals of the Act and the objectives of the FCC's pricing rules. We adopt it as a just and reasonable forward-looking, cost-based recurring charge for HFPL.[33]

c. The OCC, Staff, Covad and Sprint all contend that prior to the advent of HFPL the full cost of the loop was allocated to the services then using the loop. They raise the issue of Qwest's potential over-recovery of costs if the Commission sets a non-zero price for HFPL, but fails to adjust rates for other services contributing to recovery of loop costs. Staff, Sprint and Covad contend that in the absence of such an adjustment the recurring charge should be zero. This concern does not justify delay in setting a positive wholesale price now. Our charge in this docket is to set an appropriate wholesale price for the HFPL. Waiting to set a positive price until the conclusion of other proceedings to adjust the recovery

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[32] The Line Sharing Agreement shows a recurring rate of $4.89 per loop, *See* Exhibit GG (RMQ Exhibit 5) Answer Testimony of Rebecca Quintana, p 26.

[33] The Commission recognizes that the wholesale price we are setting here may eventually be revisited. At that time, the Commission could seek to set the price by means of a detailed cost and beneficiality analysis.

of loop costs would do more harm to the wholesale markets in the form of potential inefficiencies,[34] than allowing Qwest to potentially over-recover some loop costs. Moreover, we note that the adjustments to other rates, to account for recovery of some loop costs in the HFPL charge, are dependent upon the volumes of HFPL sold to consumers. It may take some time to develop such information. We intend to take up the issue of over-recovery of loop costs when we have better information about consumer demand for and the revenues generated by the wholesale prices for HFPL[35].

d. Covad and Staff raise the issue that a positive wholesale HFPL price could allow a price squeeze by Qwest, if it does not impute any cost to itself for the use of HFPL when offering its own DSL service. Staff argues that we should not establish a positive price for HFPL until Qwest submits and the Commission approves a proper HFPL imputation test analysis. Qwest argues that an imputation analysis is unnecessary since its retail price is far above its combined direct costs and the proposed wholesale price for HFPL. We

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[34] For example, distortions of producer and consumer choices with respect to broadband alternatives.

[35] In principle, our action here is no different than allowing a public utility to introduce a new service with a positive rate, but waiting until a general investigation into that company's total revenues and expenses (*i.e.*, a general rate case) before attempting to make adjustments to the rates for other services.

recognize that in order to avoid a price squeeze, the retail price Qwest charges for DSL must cover its direct cost plus an imputation of the wholesale price Qwest charges for HFPL. The Commission agrees that its Costing and Pricing Rules (4 CCR 723-30-4.1(f))and rules on interconnection and unbundling (4 CCR 723-39) require Qwest to pass such an imputation test. However, given that the present retail price of Qwest's DSL service ($29.95) is far above a reasonable estimate of Qwest's direct costs for providing HFPL and our proposed wholesale price, we do not adopt Staff's recommendation. We remind Qwest that the Commission expects Qwest's Cost Allocation Manuel to include the regulated revenues and expenses related to HFPL.

XIII. ORDER CONCLUSION

The Commission adopts the unbundling and interconnection prices as set forth in Appendix A attached to this Order. The Commission recognizes the difficulties and uncertainties inherent in a TELRIC based pricing endeavor. However, the Commission stresses that the prices adopted are within the inherent limitations, TELRIC compliant.

XIV. ORDER

A. The Commission Orders That:

1. The two motions to admit pro hac vice are granted.

2. Qwest shall file tariffs reflecting rates consistent with the discussion in this Order and the prices contained in Attachment A. Such filing shall be made upon 30 days notice to the Commission as specified in § 40-3-104(1),C.R.S. Qwest shall submit tariffs within 30 days after a final Order in this docket.

3. The 20-day period provided for in §40-6-114(1), C.R.S., within which to file applications for rehearing, reargument, or reconsideration begins on the first day following the mailed date of this decision.

4. This Order is effective immediately upon its Mailed Date.

B. ADOPTED IN COMMISSIONERS' DELIBERATIONS MEETING November 13, 2001.

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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Commissioners

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										FINAL Rates Recurring		Nonrecurring
6.0	**Resale**											
		Wholesale Discount Rates										
			Basic Exchange							13%		
			Basic Exchange Business Line Service/PBX/ISDN/ACS/Centrex Plus							15.70%		
			Message Telecommuni							15%		
			Listings, CO Features, Per							31.60%		
			Private Line Transport Service							21.40%		
			Public Access Line,							0%		
			Special Promotions of more than 90							Discount depends on type of service offered		
			Directory Assistance,							16.80%		
		Customer Transfer Charge (CTC)										
			CTC for POTS Service									
				Residence First Line (Mechanized)								$3.76
				Residence Each Additional Line (Mechanized)								$2.28
				Business First Line (Mechanized)								$7.92
				Business Each Additional Line (Mechanized)								$5.05
				Residence First Line (Manual)								$13.32
				Residence Each Additional Line (Manual)								$7.50
				Business First Line (Manual)								$13.17
				Business Each Additional Line (Manual)								$7.42
			CTC for Private Line Transport Services									
					First Circuit							$40.95
					Additional Circuit, per circuit, same CSR							$40.95
			CTC for Advanced Communications Services, per circuit									$44.23
7.0	**Interconnection**											
		Entrance Facilities										
			DS0									
			DS1									
			DS3									
		LIS EICT										
			DS1 EICT									
				Interconnection Tie Pair (ITP)(Optional)								
				Regeneration (Optional)								
			DS3 EICT									
				Interconnection Tie Pair (ITP)(Optional)								
				Regeneration (Optional)								

Rate proposal in other elements

										Recurring Fixed	Recurring Per Mile	Nonrecurring
		Direct Trunked Transport										
			DS0									
				DS0 Over 0 to 8 Miles						$12.17	0.0672	
				DS0 Over 8 to 25 Miles						$12.17	0.0672	
				DS0 Over 25 to 50 Miles						$12.17	0.0448	
				DS0 Over 50 Miles						$12.17	0.0336	
			DS1									
				DS1 Over 0 to 8 Miles						$20.84	0.8960	
				DS1 Over 8 to 25 Miles						$20.67	0.8620	
				DS1 Over 25 to 50 Miles						$21.07	0.6160	
				DS1 Over 50 Miles						$21.48	0.5150	
			DS3									
				DS3 Over 0 to 8 Miles						$140.05	$35.02	
				DS3 Over 8 to 25 Miles						$142.15	$12.98	
				DS3 Over 25 to 50 Miles						$131.09	$13.62	
				DS3 Over 50 Miles						$138.28	$9.33	
											Recurring	NonRecurring
		Multiplexing										
			DS1 to DS0 per arrangement								$141.31	$276.63
			DS3 to DS1 per arrangement								$141.31	$283.21

						FINAL Rates	
						Recurring	Nonrecurring
	Local Traffic						
		End office call termination, per minute of use				$0.00084	
		Tandem Switched Transport					
			Tandem Switching, per Minute of Use			$0.00071	
					Recurring Fixed	Recurring Per Mile	Nonrecurring
			Tandem Transmission				
				0 to 8 Miles	$0.000281	$0.000007	
				8 to 25 Miles	$0.000281	$0.000007	
				25 to 50 Miles	$0.000281	$0.000007	
				Over 50 Miles	$0.000281	$0.000007	
	Trunk Nonrecurring Charges						
		DS0 Interface, First Trunk					$342.05
			DS0 Interface, Each Additional Trunk				$60.54
			DS0 Interoffice Transport - Disconnect				
		DS1 Interface, First Trunk					$359.92
			DS1 Interface, Each Additional Trunk				$3.69
			DS1 Interoffice Transport - Disconnect				
		DS3 Interface, First Trunk					$369.34
			DS3 Interface, Each Additional Trunk				$13.13
			DS3 Interoffice Transport - Disconnect				
	Miscellaneous Charges						
		Expedite Charge (LIS Trunks)			Qwest's Colorado Switched Access Tariff Section 5.2.2		
		Cancellation Charge (LIS Trunks)			Qwest's Colorado Switched Access Tariff Section 5.2.3		
		Construction Charges				ICB	ICB
	IntraLATA Toll Traffic				Qwest's Colorado Switched Access Tariff		
	Transit Traffic						
		Local Transit			See Tandem Switching and Tandem Transmission Rates Above.		
			Local Transit Assumed Mileage			9 Miles	
		IntraLATA Toll			Qwest's Colorado Switched Access Tariff		
			IntraLATA Toll Assumed Mileage			9 Miles	
		Jointly Provided Switched Access			Qwest's Colorado Switched Access Tariff		
		Category 11 Mechanized Record Charge, per Record				$0.001903	
						Recurring	NonRecurring
8.0	Collocation						
	Quote Preparation Fee						$2,111.27
					Quote Prep Fee is later deducted from Construction Charge		
	All Collocation						
		Collocation Entrance Facility, per fiber pair					
			Standard Shared per Fiber			$4.49	$1,164.95
			Cross Connect per Fiber			$4.60	$957.42
			Express per Cable			$58.63	$3,807.50
		Cable Splicing					
			Fiber - Per Set-Up				$515.86
			Per Fiber Spliced				$38.90
			Per Copper Spliced				$91.20
		-48 Volt DC Power Usage, per Ampere, per Month					
			Power Plant			$10.52	
				>60 amps		$6.14	
				= 60 amps		$7.22	
				< 60 amps		$9.22	
			Power Usage Less Than 60 Amps, per Amp			$2.25	
			Power Usage More Than 60 Amps, per Amp			$4.50	
		AC Power Feed					
			AC Power Feed – per Amp, per Month				
				120 V		$18.72	
				208 V, Single Phase		$32.44	
				208 V, Three Phase		$56.13	
				240 V, Single Phase		$37.43	
				240 V, Three Phase		$64.76	
				480 V, Three Phase		$129.51	

	FINAL Rates Recurring	Nonrecurring
AC Power Feed – per Foot, per Month		
20 Amp, Single Phase	$0.0197	$7.98
20 Amp, Three Phase	$0.0245	$9.89
30 Amp, Single Phase	$0.0212	$8.60
30 Amp, Three Phase	$0.0292	$11.83
40 Amp, Single Phase	$0.0250	$10.12
40 Amp, Three Phase	$0.0344	$13.93
50 Amp, Single Phase	$0.0296	$12.01
50 Amp, Three Phase	$0.0414	$16.77
60 Amp, Single Phase	$0.0336	$13.58
60 Amp, Three Phase	$0.0477	$19.30
100 Amp, Single Phase	$0.0415	$16.82
100 Amp, Three Phase	$0.0648	$26.25
Inspector Labor, per Half Hour		
Regular Hours Rate		$31.90
After Hours Rate, minimum 3 hours		$41.08
Collocation Terminations		
DS0		
Cable Placement per 100 Pair Block, OR	$0.9068	$243.40
Cable Placement per Termination	$0.0170	$4.57
Cable per 100 Pair Block, OR	$1.2361	$331.81
Cable per Termination	$0.0169	$4.54
Blocks per 100 Pair Block, OR	$2.1403	$574.54
Blocks per Termination	$0.0293	$7.87
Block Placement Per 100 Pair Block, OR	$0.9404	$252.44
Block Placement per Termination	$0.0129	$3.46
DS1		
Cable Placement per 28 DS1s, OR	$1.0001	$404.83
Cable Placement per Termination	$0.1076	$43.53
Cable per 28 DS1s, OR	$0.9462	$383.07
Cable per Termination	$0.1017	$41.19
Panel per 28 DS1s , OR	$1.0722	$434.07
Panel per Termination	$0.1288	$52.12
Panel Placement per 28 DS1s, OR	$0.2134	$86.38
Panel Placement per Termination	$0.0229	$9.29
DS3		
Cable per Termination	$0.4072	$164.82
Cable Placement per Termination	$0.6111	$247.37
Connector per Termination	$0.6255	$253.20
Connector Placement per Termination	$0.0613	$24.14
Security		
Access Card per Employee	$0.85	
Card Access Per employee, per Office	$7.16	
Central Office Security Infrastructure	ICB	
Central Office Clock Synchronization		
Synchronization – Composite Clock, per Port	$7.13	
Cageless Physical Collocation		
Quote Preparation Fee	Quote Prep Fee is later deducted from Construction Charge	See Above
Space Construction		
2 Bays and 1 - 40A Power Feed	$67.08	$27,155.33
Adjustment for 20A Initial Power Feed	-$5.16	-$2,087.58
Adjustment for 30A Initial Power Feed	-$3.29	-$1,332.29
Adjustment for 60A Initial Power Feed	$4.52	$1,828.93
Adjustment for Each Additional Bay	$5.78	$2,340.28
Each Additional 20A Power Feed	$13.09	$5,299.88
Each Additional 30A Power Feed	$14.95	$6,055.18
Each Additional 40A Power Feed	$18.25	$7,387.47
Each Additional 60A Power Feed	$22.77	$9,216.40
Floor Space Lease, per Square Foot		$4.00
Caged Physical Collocation		
Quote Preparation Fee	Quote Prep Fee is later deducted from Construction Charge	See Above

	FINAL Rates Recurring	Nonrecurring
Space Construction		
Cage- Up to 100 Sq. Ft and 1 - 60A Power Feed	$120.94	$48,958.76
Cage- 101- 200 Sq. Ft and 1 - 60A Power Feed	$125.46	$50,785.46
Cage- 201- 300 Sq. Ft and 1 - 60A Power Feed	$128.96	$52,205.94
Cage- 301- 400 Sq. Ft and 1 - 60A Power Feed	$133.36	$53,986.07
Adjustment for 20A Initial Power Feed	-$20.00	-$8,095.32
Adjustment for 30A Initial Power Feed	-$18.21	-$7,370.10
Adjustment for 40A Initial Power Feed	-$14.46	-$5,853.91
Adjustment for 100A Initial Power Feed	$22.14	$8,961.67
Adjustment for 200A Initial Power Feed	$70.68	$28,609.98
Adjustment for 300A Initial Power Feed	$129.67	$52,492.33
Adjustment for 400A Initial Power Feed	$199.45	$80,737.24
Each Additional 20A Power Feed	$16.51	$6,685.50
Each Additional 30A Power Feed	$18.31	$7,410.73
Each Additional 40A Power Feed	$22.05	$8,926.93
Each Additional 60A Power Feed	$36.51	$14,780.83
Each Additional 100A Power Feed	$58.65	$23,742.49
Each Additional 200A Power Feed	$107.19	$43,390.81
Each Additional 300A Power Feed	$166.18	$67,273.16
Each Additional 400A Power Feed	$235.96	$95,518.07
Floor Space Lease, per Square Foot		$4.00
Grounding		
2/0 AWG - per Foot	$0.0300	$12.05
1/0 AWG - per Foot	$0.0500	$20.04
4/0 AWG - per Foot	$0.0600	$22.78
350 kcmil - per Foot	$0.0800	$31.60
500 kcmil - per Foot	$0.0900	$35.21
750 kcmil – per Foot	$0.1300	$53.96
Virtual Collocation		
Quote Preparation Fee	Quote Prep Fee is later deducted from Construction Charge	
		See Above
Maintenance Labor, per Half Hour		
Regular Hours Rate		$27.92
After Hours Rate		$37.36
Training Labor, per Half Hour		
Regular Hours Rate		$27.92
Equipment Bay -recurring, per Shelf	$3.46	
Engineering Labor, per Half Hour		
Regular Hours Rate		$30.13
After Hours Rate		$38.89
Installation Labor, per Half Hour		
Regular Hours Rate		$31.83
After Hours Rate		$40.99
Floor Space Lease, per Square Foot		$4.00
CLEC-to-CLEC Connections		
Design Engineering & Installation – No Cables		$1,191.83
Cable Racking (Per Foot)		
DS0	$0.2100	
DS1	$0.2200	
DS3	$0.2000	

		FINAL Rates Recurring	Nonrecurring
	Virtual Connections (Connections only; No Cables)		
	DS0 (Per 100 Connections)		$222.61
	DS1 (Per 28 Connections)		$101.53
	DS3 (Per 1 Connection)		$8.78
	Cable Hole (if Applicable)		$447.70
	CLEC to CLEC Cross-Connection		$254.77
9.0	**Unbundled Network Elements (UNEs)**		
	Interconnection Tie Pairs (ITP) – Per Termination		
	DS0	Rate element not necessary	
	DS1		
	DS3		
	Unbundled Loops		
	Analog Loops		
	2-Wire Voice Grade and 2-Wire Non-Loaded		
	Zone 1	$8.76	
	Zone 2	$14.45	
	Zone 3	$37.73	
	CO Multiplexing	$2.06	
	4-Wire Voice Grade and 4-Wire Non-Loaded		
	Zone 1	$17.52	
	Zone 2	$28.90	
	Zone 3	$75.46	
	CO Multiplexing	$4.12	
	Cable Unloading/Bridge Tap Removal		
	First Splice Location		$85.00
	Each Additional Splice Location		$50.00
	Digital Capable Loops		
	Basic Rate ISDN Capable Loop		
	Zone 1	$8.76	
	Zone 2	$14.45	
	Zone 3	$37.73	
	DS1 Capable Loop		
	Zone 1	$54.38	
	Zone 2	$54.71	
	Zone 3	$62.80	
	HDSL 4 Wire (DS1) - Equipment Loop	$54.71	
	DS3 Capable Loop		
	Zone 1	$595.01	
	Zone 2	$603.40	
	Zone 3	$798.32	
	2-Wire Extension Technology	$14.45	
	Analog & DS0 Loop Installation Charges		
	Basic Installation		
	First Loop		$87.74
	Each Additional Loop		$75.59
	Basic Installation with Cooperative Testing		
	First Loop		$189.62
	Each Additional Loop		$136.13
	Coordinated Installation without Cooperative Testing		
	First Loop		$94.78
	Each Additional Analog Loop		$82.64
	Basic Installation with Performance Testing		
	First Loop		$189.62
	Each Additional Loop		$136.13
	Coordinated Installation with Cooperative Testing		
	First Loop		$229.33
	Each Additional Loop		$136.13

	FINAL Rates	
	Recurring	Nonrecurring
DS1 Loop Installation Charges		
Basic Installation		
First Loop		$154.79
Each Additional Loop		$124.42
Basic Installation with Performance Testing		
First Loop		$313.13
Each Additional Loop		$241.92
Coordinated Installation with Cooperative Testing		
First Loop		$352.84
Each Additional Analog Loop		$262.04
Coordinated Installation without Cooperative Testing		
First Loop		$163.84
Each Additional Loop		$133.48
DS3 Loop Installation Charges		
Basic Installation		
First Loop		$154.79
Each Additional Loop		$124.42
Basic Installation with Performance Testing		
First Loop		$313.13
Each Additional Loop		$241.92
Coordinated Installation with Cooperative Testing		
First Loop		$352.84
Each Additional Analog Loop		$262.04
Coordinated Installation without Cooperative Testing		
First Loop		$163.84
Each Additional Loop		$133.48
Subloop		
2-Wire Distribution Loop		$120.67
Zone 1	$4.54	
Zone 2	$8.73	
Zone 3	$26.08	
Zone 4		
4-Wire Distribution Loop		
Zone 1	$5.90	
Zone 2	$11.35	
Zone 3	$33.90	
Zone 4		
2-Wire Feeder Loop		$120.67
Zone 1	$1.20	
Zone 2	$1.59	
Zone 3	$5.23	
2-Wire Loop Concentration		
Zone 1	$2.52	
Zone 2	$3.52	
Zone 3	$5.74	
Installation for Each Additional 2-Wire Distribution Loop		$55.16
Building Cable	$0.78	
DS1 Capable Feeder Loop		$328.22
Zone 1	$48.16	
Zone 2	$48.47	
Zone 3	$56.56	
DS1 Each Additional Capable Feeder Loop		$257.60
Field Connection Point		
Feasibility Fee/Quote Preparation Fee		$1,107.09
Construction Fee		ICB

	FINAL Rates Recurring	Nonrecurring
Line Sharing		
Shared Loop, per Loop	$4.86	$37.47
OSS, per Order		
Reclassification Charge		
Splitter Shelf Charge	$4.28	$544.03
Splitter Configuration Options		
Option 1A	$6.41	$3,341.43
Option 1B	$6.11	$3,184.49
Option 2A	$4.20	$1,889.02
Option 2B	$2.24	$1,008.92
Option 3A	$4.95	$2,228.84
Option 3B	$2.30	$1,037.85
Engineering		$1,272.21
Network Interface Device (NID)		$41.98
Zone 1	$0.50	
Zone 2	$0.60	
Zone 3	$0.68	

	Recurring Fixed	Recurring per Mile	Nonrecurring
Unbundled Dedicated Interoffice Transport (UDIT)			
DS0 UDIT			$306.03
DS0 Over 0 to 8 Miles	$12.17	$0.0672	
DS0 Over 8 to 25 Miles	$12.17	$0.0672	
DS0 Over 25 to 50 Miles	$12.17	$0.0448	
DS0 Over 50 Miles	$12.17	$0.0336	
DS0 Interoffice Transport - Disconnect			
DS1 UDIT			$300.43
DS1 Over 0 to 8 Miles	$20.84	0.8960	
DS1 Over 8 to 25 Miles	$20.67	0.8620	
DS1 Over 25 to 50 Miles	$21.07	0.6160	
DS1 Over 50 Miles	$21.48	0.5150	
DS1 Interoffice Transport - Disconnect			
DS3 UDIT			$300.43
DS3 Over 0 to 8 Miles	$140.05	$35.02	
DS3 Over 8 to 25 Miles	$142.15	$12.98	
DS3 Over 25 to 50 Miles	$131.09	$13.62	
DS3 Over 50 Miles	$138.28	$9.33	
DS3 Interoffice Transport - Disconnect			
OC-3 UDIT			$300.43
OC-3 Over 0 to 8 Miles	$571.13	$149.12	
OC-3 Over 8 to 25 Miles	$575.32	$39.54	
OC-3 Over 25 to 50 Miles	$552.53	$53.57	
OC-3 Over 50 Miles	$567.10	$31.67	
OC-3 Interoffice Transport - Disconnect			
OC-12 UDIT			$300.43
OC-12 Over 0 to 8 Miles	$1,633.96	$43.31	
OC-12 Over 8 to 25 Miles	$1,633.96	$45.47	
OC-12 Over 25 to 50 Miles	$1,633.96	$50.31	
OC-12 Over 50 Miles	$1,633.96	$61.20	
OC-12 Interoffice Transport - Disconnect			

	Recurring	Nonrecurring
DS0 UDIT Low Side Channelization	$8.48	
DS1/DS0 Low Side Channelization	$4.83	$233.31
Multiplexing		
DS1 to DS0	$141.31	$276.05
DS3 to DS1	$141.62	$2,586.83
Extended Unbundled Dedicated Interoffice Transport		
DS1 E-UDIT	Use UDIT Rates	
DS3 E-UDIT		
OC-3 E-UDIT		
OC-12 E-UDIT		

	FINAL Rates Recurring	Nonrecurring
UDIT Rearrangement		
DS0 Single Office		$175.15
DS0 Dual Office		$217.70
High Capacity Single Office		$236.90
High Capacity Dual Office		$264.36
Unbundled Dark Fiber (UDF)		
Initial Records Inquiry (IRI)		$159.13
Mid-Point Structure Inquiry		$202.90
Field Verification and Quote Preparation (FVQP)		$1,481.94
UDF-IOF Charges		
Order Charge Per Route		$562.34
Order Charge Each Additional, Per Route		$281.36
Two Fiber Termination, per Termination	$6.77	
Fiber Transport, per Mile	$68.91	
Two Fiber Cross Connect, per Cross Connect	$3.76	$21.43
UDF-Loop Charges		
Order Charge Per Route	$562.34	
Order Charge Each Additional, per Route	$281.36	
2 Fiber Termination, Per Term. at Wire Center	$7.04	
2 Fiber Termination, Per Term. at Premise	$5.94	
2 Fiber Loop, Per Route	$116.19	
2 Fiber Cross-Connect Per Cross Connect	$3.76	$21.43
Extended Dark Fiber (E-UDF)		
Order Charge Per Route		$562.34
Order Charge Each Additional, per Route		$281.36
2 Fiber Termination, Per Term. at Wire Center	$7.04	
2 Fiber Termination, Per Term. at Premise	$5.94	
2 Fiber Loop, Per Route	$116.19	
2 Fiber Cross-Connect Per Cross Connect	$3.76	$21.43
Shared Transport		
Per Minute of Use	$0.000940	
Unbundled Customer Controlled Rearrangement Element (UCCRE)		
DS1 Port	ICB	ICB
DS3 Port	ICB	ICB
Dial Up Access	ICB	ICB
Attendant Access	ICB	ICB
Virtual Ports	ICB	ICB
Local Tandem Switching		
DS1 Local Message Trunk Port		$252.04
Message Trunk Group – First Trunk		$267.60
Message Trunk Group – Each Additional Trunk		$27.16
Per Minute of Use	$0.000710	
Local Switching		
Analog Line Side Port, First Port	$1.78	
Line Port (DS0, Analog, ISLU) Disconnect		
Side Port with Features,	$1.78	
Vertical Features		
Custom Calling		$0.00
Automatic Callback Calling/Ring Again		
Call Forwarding Busy Line		
Call Forwarding Variable		
Call Transfer		
Call Waiting- Terminating		
Cancel Call Waiting		
Distinctive Ringing		
Speed Call Long – Customer Change		
Three Way Calling		

	FINAL Rates	
	Recurring	Nonrecurring
Feature Package I		$0.00
All Custom Calling Package Features		
Call Forwarding Don't Answer		
Call Forwarding Variable Remote		
Call Hold		
Call Park Retrieve		
Call Park Store		
Call Pickup		
Dial Call Waiting		
Directed Call Pickup w/ Barge-in		
Message Waiting Indication A/V		
Station Dial Conferencing		
Trunk Answer Any Station		
Feature Package II		$0.00
All Custom Calling Package Features		
All Feature Package I Features		
CLASS – Anonymous Call Rejection		
CLASS – Call Waiting ID		
CLASS – Calling Name Delivery		
CLASS – Calling Number Delivery		
CLASS – Calling Number Delivery Blocking		
CLASS – Continuous Redial		
CLASS – Last Call Return		
CLASS – Priority Calling		
CLASS – Selective Call Forwarding		
CLASS – Selective Call Rejection		
Other Standard Centrex Features		
Centrex Common Equipment		$0.00
Additional Centrex Features		
6 Way Calling For Non-Centron Line Ports	$0.00	$42.16
Account Codes, Per System	$0.00	$80.70
Attendant Access Line, Per Station	$0.00	$1.15
Audible Message Waiting	$0.00	$1.00
Authorization Codes, Per System	$0.00	$236.65
EBS- Automatic Line, Per Station Line	$0.00	$1.00
ARS- Common Equipment, Per Group	$0.00	$2,059.23
Call Trace	$0.00	$1.13
UCD- Call Waiting Indication, Per Unique Timing State, Per Timing State	$0.00	$1.00
Call Waiting Originating	$0.00	$0.00
Centrex Management System	$0.00	$0.00
Conference Calling- Meet Me, Per System	$0.00	$42.16
Conference Calling- Preset – Per System	$0.00	$42.16
Data Call Protection	$0.00	$0.00
EBS- Dir Sta Sel/Busy Lamp Fld, Per Arrangement	$0.00	$1.00
EBS- Set Interface, Per Station Line	$0.00	$0.00
Executive Busy Override	$0.00	$0.00
ARS- Expensive Route Warning Tone- Per System	$0.00	$71.61
ARS- Facility Restriction Level, Per System	$0.00	$66.61
Hot Line, Per Line Equipped, Per Line	$0.00	$1.00
Loudspeaker Paging Trunkside, Per Group	$0.00	$175.38
UCD- Make Busy Arrangements, Per Group	$0.00	$1.00
UCD- Make Busy Arrangements, Per Line	$0.00	$1.00
EBS- Message Center, Per Main Station Line, Per Line	$0.00	$1.00
Message Waiting Visual, Per Line	$0.00	$1.00
EBS- Message Waiting Visual, Per Station Line	$0.00	$1.00
Multiple Position Hunt Announcement, Per Group	$0.00	$72.37
Multiple Position Hunt, Per Line	$0.00	$0.66
Multiple Position Hunt Queing, Per Group	$0.00	$37.77
Music On Hold, Per System (DMS Only)	$0.00	$67.62
Network Speed Call	$0.00	$0.00
Night Service Arrangement	$0.00	$0.00
EBS- Privacy Release, Per Station Line	$0.00	$1.38
EBS Query Time, Per Station Line	$0.00	$1.00
EBS- Station Camp On, Per Main Line, Per Line	$0.00	$1.00
Station Message Detail Recording	$0.00	$0.00
Time of Day Control for ARS, Per System	$0.00	$124.66
Time of Day NCOS Updated, Per Main Station	$0.00	$0.55
Time of Day Routing, Per Line	$0.00	$1.51
Trunk Verification from Designated Station, Per Line Equipped	$0.00	$1.15
UCD- In Hunt Group, Per Line	$0.00	$0.66
UCD- With Music after Delay	$0.00	$0.66
CMS- System Establishment, Initial Installation	$0.00	$965.53

	FINAL Rates Recurring	Nonrecurring
CMS- System Establishment, Subsequent Installation	$0.00	$482.77
CMS- Packet Control Capability, Per System	$0.00	$482.77
SMDR-P- Service Establishment Charge, Initial Installation	$0.00	$337.17
SMDR-P- Archived Data	$0.00	$176.19
Call Trace, Per Activation	$2.00	
Subsequent Order Charge		$13.49
Digital Line Side Port (Supporting BRI ISDN)	$9.92	
First Port		$232.75
Each Additional Port		$232.75
DS0 Analog Trunk Port	$15.55	
First Port		$129.16
Each Additional		$35.89
Line Port (DS0, Analog, ISLU) Disconnect		
Digital Trunk Ports		
DS1 Digital Trunk, First	$54.19	$215.63
DS1 Digital Trunk, Each Additional		$62.68
DS1 Digital Trunk Disconnect		
DS1 DID Trunk Port		$205.68
DS1 PRI ISDN Trunk Port	$236.95	$689.99
Local Usage, per Minute of Use	$0.00084	
Customized Routing		
Development of		ICB
Installation Charge,		ICB
All Other Custom Routing		ICB
Common Channel Signaling/SS7		
CCSAC STP Port	$142.14	$437.52
CCSAC Options Activation Charge		
Basic Translations		
First Activation, per order		$114.61
Each Additional Activation, per		$9.51
CCSAC Options Database Translations		
First Activation per order		$133.65
Each additional Activation per order		$57.10
Signal Formulation, ISUP, Per Call Attempt	$0.000647	
Signal Transport, ISUP, Per Call Attempt	$0.000216	
Signal Transport, TCAP, Per Call Attempt	$0.000024	
Signal Switching, ISUP, Per Call Attempt	$0.001101	
Signal Switching, TCAP, Per Call Attempt	$0.000921	
Advanced Intelligent Network (AIN)		
AIN Customized Services		ICB
AIN Platform Access	ICB	ICB
AIN Query Processing, per Query	ICB	
Line Information Database (LIDB)		
LIDB Storage		No Charge
Line Validation Administration System Access (LVAS)		ICB
LIDB Line Record Initial Load		
Up to 20,000 Line Records		$2,481.36
Over 20,000 Line Records		ICB
Mechanized Service	ICB	
Individual Line Record Audit		ICB
Account Group Audit		ICB
Expedited Request Charge for Manual Updates		ICB
LIDB Query Service, per Query	$0.002593	
Fraud Alert Notification, per Alert	No Charge	
8XX Database Query Service		
Basic Query, per Query	$0.012828	
POTS Translation	$0.000001	
Call Handling & Destination Feature	$0.000003	

	FINAL Rates Recurring	Nonrecurring
ICNAM, Per Query	$0.002149	
Construction Charges		ICB
Miscellaneous Elements		
Additional Engineering – Basic		$31.77
Additional Engineering – Overtime		$39.29
Additional Labor Installation – Overtime		$9.03
Additional Labor Installation – Premium		$18.06
Additional Labor Other – Basic		$27.69
Additional Labor Other – Overtime		$36.98
Additional Labor Other – Premium		$46.29
Testing and Maintenance – Basic		$29.42
Testing and Maintenance – Overtime		$29.29
Testing and Maintenance – Premium		$49.16
Maintenance of Service – Basic		$27.69
Maintenance of Service – Overtime		$36.98
Maintenance of Service – Premium		$46.29
Additional COOP Acceptance Testing – Basic		$29.42
Additional COOP Acceptance Testing – Overtime		$39.29
Additional COOP Acceptance Testing – Premium		$49.16
NonScheduled COOP Testing - Basic		$29.42
NonScheduled COOP Testing – Overtime		$39.29
NonScheduled COOP Testing – Premium		$49.16
NonScheduled Manual Testing – Basic		$29.42
NonScheduled Manual Testing – Overtime		$39.29
NonScheduled Manual Testing – Premium		$49.16
Cooperative Scheduled Testing – Loss		$0.08
Cooperative Scheduled Testing – C-Message Noise		$0.08
Cooperative Scheduled Testing – Balance		$0.33
Cooperative Scheduled Testing – Gain Slope		$0.08
Cooperative Scheduled Testing – C-Notched Noise		$0.08
Manual Scheduled Testing – Loss		$0.17
Manual Scheduled Testing – C-Message Noise		$0.17
Manual Scheduled Testing – Balance		$0.66
Manual Scheduled Testing – Gain Slope		$0.17
Manual Scheduled Testing – C-Notched Noise		$0.17
Additional Dispatch		$84.40
Date Change		$10.38
Design Change		$73.93
Expedite Charge		ICB
Cancellation Charge		ICB
Channel Regeneration		
DS1 Regeneration	$2.32	$477.52
DS3 Regeneration	$7.34	$1,806.53
	Note: Conditions on Charges	
UNE Platform		
UNE-P Conversion		
UNE-P POTS, CENTREX, PAL, PBX Mechanized		
First		$0.68
Each Additional		$0.14
UNE-P Migration		
UNE-P Disconnect		
UNE-P POTS, CENTREX, PAL, PBX Manual		
First		$16.25
Each Additional		$2.71
UNE-P Migration		
UNE-P Disconnect		
UNE-P PBX DID Trunk, Existing Service		
First		$20.66
Each Additional		$3.13
UNE-P Migration		
UNE-P Disconnect		

	FINAL Rates		
	Recurring		Nonrecurring
UNE-P ISDN BRI			
First			$15.12
Each Additional			$3.13
UNE-P Migration			
UNE-P Disconnect			
UNE-P ISDN PRI, DSS per DS1 Facility			$51.10
UNE-P ISDN PRI, DSS Trunk			
First			$18.81
Each Additional			$3.13
UNE-P New Connection			
UNE-P POTS Mechanized			
First			$55.43
Each Additional			$15.91
UNE-P POTS Manual			
First			$82.28
Each Additional			$18.48
UNE-Combination Private Line			
DS0/DS1/DS3/OCN/Integrated T-1 Existing Service			$40.95
Enhanced Extended Loop (EEL)			
EEL Link			
DS0, First			$310.00
DS0, Each Additional			$221.58
DS1, First			$349.58
DS1, Each Additional			$241.64
DS3, First			$365.92
DS3, Each Additional			$257.98
	Recurring Fixed	Recurring Per Mile	Nonrecurring
EEL Transport			
DS0 Transport			$306.02
DS0 Over 0 to 8 Miles	$12.17	$0.0672	
DS0 Over 8 to 25 Miles	$12.17	$0.0672	
DS0 Over 25 to 50 Miles	$12.17	$0.0448	
DS0 Over 50 Miles	$12.17	$0.0336	
DS1 Transport			$300.43
DS1 Over 0 to 8 Miles	$20.84	$0.8960	
DS1 Over 8 to 25 Miles	$20.67	$0.8620	
DS1 Over 25 to 50 Miles	$21.07	$0.6160	
DS1 Over 50 Miles	$21.48	$0.5150	
DS3 Transport			$300.43
DS3 Over 0 to 8 Miles	$140.05	$35.0200	
DS3 Over 8 to 25 Miles	$142.15	$12.9800	
DS3 Over 25 to 50 Miles	$131.09	$13.6200	
DS3 Over 50 Miles	$138.28	$9.3300	
Multiplexing			
DS1 to DS0		$141.31	$276.63
DS3 to DS1		$141.31	$283.21
DS0 Channel Performance			
DS0 Low Side Channelization	Rate Element not necessary		
DS1/DS0 MUX, Low Side Channelization			
Concentration Capability		ICB	
Packet Switching			
Unbundled Packet Switch Customer Channel			
DSLAM			
Virtual Transport			
Unbundled Packet Switch Loop Capability			
Unbundled Packet Switch Interface Port			
DS1			
DS3			

		FINAL Rates Recurring	Nonrecurring
10.0	**Ancillary Services**		
	Local Number Portability		
	LNP Queries	See FCC Tariff No. 5	
	911/E911	No charge	
	White Pages Directory Listings, Facility Based Providers		
	Primary Listing	No charge	
	Premium/Privacy Listings	Exchange Tariff Rate, less wholesale	
	Directory Assistance, Facility Based Providers		
	Local Directory Assistance, Per Call	$0.3400	
	National Directory Assistance, per Call	$0.3850	
	Call Branding, Set- Up and Recording		$10,500.00
	Loading Brand /Per Switch		$175.00
	Call Completion Link, per call	$0.0850	
	Directory Assistance List Information		
	Initial Database Load per Listing	$0.0250	
	Reload of Database, per Listing	$0.0200	
	Daily Updates, per Listing	$0.0250	
	One-time Set-Up Fee		$82.22
	Media Charges for File Delivery		
	Electronic Transmission, per listing	$0.0010	
	Tapes (charges only apply if this is selected as the normal delivery medium for daily updates)	$30.00	
	Shipping Charges (for tape delivery)	ICB	
	Toll and Assistance Operator Services, Facility Based Providers		
	Option A – Per Message		
	Operator Assistance, per Call		
	Operator Handled Calling Card	$0.36	
	Machine Handled Calling Card	$0.46	
	Station Call	$0.18	
	Person Call	$0.84	
	Connect to Directory Assistance	$2.06	
	Busy Line Verify, per call	$0.55	
	Busy Line Interrupt	$0.72	
		$0.87	
	Option B – Per Operator Work Second and Computer Handled Calls		
	Operator Handled, per Operator Work Second	$0.018100	
	Machine Handled, per Call	$0.13	
	Call Branding, Set-Up & Recording		$10,500.00
	Loading Brand/Per Switch		$175.00
	Access to Poles, Ducts, Conduits and Rights of Way		
	Pole Inquiry Fee, per Mile		$336.45
	Innerduct Inquiry Fee, per Mile		$404.43
	Field Verification Fee, Poles		$0.00
	Field Verification Fee, Manholes		$0.00
	Make-Ready Work		ICB
	Pole Attachment Fee, per Foot, per Year	$2.50	
	Innerduct Occupancy Fee, per Foot, per Year	$0.30	
12.0	**Operational Support Systems**		
	Daily Usage Record File, per Record	$0.000886	
17.0	**Bona Fide Request Process**		
	Processing Fee		$2,111.17